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THE BOSTON Medical and Surgical JOURNAL

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OFFICIAL ORGAN OF THE NEW ENGLAND SURGICAL SOCIETY, AND OF THE BOSTON SURGICAL SOCIETY, INC.

Per Annum, 25c per Copy
Volume 189, Number 25

THURSDAY, DECEMBER 20, 1923

Published Weekly in Boston at 126 Massachusetts Avenue

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POLLEN ASTHMA

Seasonal asthma is usually caused by pollen sensitivity. Even in perennial asthma, pollens are frequently found to be primary or secondary causative factors. Hence, it is now recognized that in the diagnosis of asthma pollen proteins should be used in association with food, epidermal, bacterial and other proteins. Diagnostic pollens are, however, of particular importance when testing cases whose symptoms are accentuated during the pollinating seasons.

List of pollens showing regional distribution and time of pollination sent on request.

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THE BOSTON
Medical and Surgical
JOURNAL

VOLUME 189 DECEMBER 20, 1923 NUMBER 25

Original Articles

THE PRESENT STATUS OF CAESAREAN SECTION IN MASSACHUSETTS*

BY ROBERT L. DENORMANDIE, M.D., F.A.C.S., BOSTON

IN Massachusetts in 1922 the operation of Caesarean section was performed 1161 times. One out of every seventy-eight births was a Caesarean. To justify any such number of sections the results obtained must be beyond criticism. The object of a Caesarean section we all will agree is to obtain a living baby and to have the mother a well and useful member of her family. If either of these objects fail except in a few grave emergencies, the operation then is to be regarded as a failure, and the question rightly may be asked, would not some other method of delivery have been more advantageous?

I can look back over some twenty years of Caesarean history. What a change has taken place in this short time! Then it was a rare, unusual operation, done only because of grave complications and to be avoided if possible. Gradually the narrow indications were widened, at first very slowly, then when the results were found to be good, the indications were broadened by leaps and bounds. At the present time there literally is scarcely a condition presented by a pregnant woman which is not recommended by some writer to be managed by a Caesarean—from a true disproportion through the entire gamut, finally ending in the patient's request or the doctor's ultimatum that unless a Caesarean is to be done he will not look after the case!

A first classical Caesarean section is an easy abdominal operation and should not give a high mortality, yet there are but few operators who can do a large series of Caesareans without a mortality of between two to three per cent. There are many series reported where the mortality runs up to ten or twelve per cent., and when an operation carries a mortality of about ten per cent. I believe it is a serious procedure and must not be advised without careful consideration.

Why are so many Caesareans being performed today? Is it that we are meeting more complicated cases of obstetrics in our present day life, or are we losing the ability that many of our predecessors had to deliver successfully difficult cases by vagina?

In any series of cases there are two chief reasons given for Caesareans—first, disproportion, and second, the toxemias. These two indications will include about sixty per cent. of all cases done. Hemorrhage and cardiac disease are the next largest groups, and the remainder includes abnormal presentations and ineffectual labor and some other infrequent indications.

For those cases of true disproportion, Caesarean section is the one indicated operation, properly done at an elected time, which gives brilliant results. It is of these other groups that I want to speak especially, for it is in these groups that many unnecessary Caesareans are being done at the present time.

But before I go on to these groups, let me say a few words about the one of disproportion. Every physician should have carefully in mind how he means to deliver each patient that comes under his charge, remembering that in a primigravida the presenting part should be in the pelvis at least at the beginning of labor. Careful examination, palpation and measurements will do away with hurried, unexpected operative work. The large majority of cases will show no disproportion, a few will present a marked disproportion. With those two groups there is no difficulty, the procedure is clear. In the border-line group, where there is slight if any disproportion but the presenting part remains high, our best judgment—our best obstetric judgment—is taxed to the utmost. If we have had no good obstetric training or experience it is in this group that many Caesareans are being unnecessarily done. Take for example the young primigravida who comes to labor with a high head and no demonstrable disproportion present. Shall we at once perform a Caesarean, or shall we allow this woman to go into labor? I assume that the physician in charge is capable of judging within the average limits of error whether or not a disproportion exists. But here is where the average border-line case is badly handled. The patient is not carefully studied and examined before labor begins. She frequently is not seen until labor has begun. Under these conditions good obstetrics is not done and we rush into ill-advised operative work and obtain poor results. It is better obstetric judgment to carry these border-line cases on in labor, giving them the opportunity to have a delivery from below, than to

*Read before joint meeting of the Middlesex North, Middlesex East, Essex South and Essex North District Medical Societies, at North Reading, Mass., October 17, 1923.

subject them to a Caesarean without a test of labor.

Another group, where there is no disproportion, that now is being subjected to a Caesarean is the posterior position in which there is very slow progress. I cannot bring myself to agree that a posterior position, *per se*, is ever a proper indication for a section. I grant it to be an easy way out of a difficult situation, but it is unjustifiable. Closely allied to this type of case is the patient that shows a uterine inertia with little or no dilatation. I admit that rarely this condition exists and a Caesarean may be indicated, but in by far the majority of such cases the patient is not in true labor and if she is given a good sleep with morphia and chloral she usually will start up in active labor, make progress, and delivery from below is readily accomplished.

Now let me go on with the groups of toxemias, praevias and cardiac disease. These groups are all being managed by Caesarean section in increasing numbers, not because the results are markedly better but because it is the easiest way out of difficulty, and should a bad result follow it is said everything possible was done.

Any pregnant patient may develop a toxemia, but with careful prenatal oversight, few will develop eclampsia, yet in any series of Caesareans eclampsia always is given as a common indication for operation. In the majority of cases of eclampsia someone has blundered—it may be the physician, it more frequently is the patient herself. She does not report early untoward symptoms and before the physician is notified many times an eclampsia is present. Eclampsia is a terrifying complication to the family, and the family presses to have something done and a Caesarean is performed. I have done Caesareans on eclamptics and I have, in some cases, had good results. As a routine procedure section is not justifiable, for the results are not good. Until all pregnant women have intelligent medical care throughout their pregnancies we will have this complication with us, and I feel that we can improve our maternal mortality quicker by careful, intensive care of the pregnant woman than by subjecting every eclamptic to a Caesarean.

From all sides you hear that the next group, the praevias, should be managed by a Caesarean. It is being done more and more. Undoubtedly some praevias should be so managed. The praevia in a primipara at full term with an undilated cervix and the baby and mother in good condition is better off with a Caesarean. But what shall we say of doing a Caesarean for a praevia on a multipara six months advanced? Is that ever reasonably good obstetrics? Here again there is many times lack of intelligent oversight. The patient bleeds a little, not alarmingly. She may not report it to her physician; sometimes she reports it but the physician makes light of it and does nothing. Soon flooding occurs, this time serious, and the patient is rushed to a hospital for a Caesarean. A woman who has bled profusely is not a good operative risk, no matter what procedure is elected, but if an abdominal operation is done she not infrequently quickly succumbs to sepsis. Many of these praevias which are now being sectioned should be treated from below, using the Voorhees bag to stop the bleeding and to obtain dilatation. The use of the bag means most careful watching and ability to deliver successfully from below. You may say that by this method the baby is sacrificed. That may be true, but do not many of these babies, even if delivered by section, die in the first few days of life because of prematurity and hemorrhage? Isn't it better to sacrifice a baby now and then rather than to subject the woman already in bad condition to a major abdominal operation?

The next group is the cardiac cases. It is recognized on all sides that cardiac cases are prone to have very easy labors and with the aid of analgesics, delivery from below, when full dilatation has occurred, may be accomplished with practically no strain. In spite of this, more and more cardiacs are being delivered by section. Pregnancies in serious cardiac cases are extremely difficult to carry through successfully, but I am not convinced that Caesarean section is the only way to manage them. If the patient is a primigravida the reason for a Caesarean section is more real than were she a multigravida with a similarly damaged heart. Can any one of us at the present time say how any given heart will stand a labor? There are too many unknown quantities present. This summer a cardiac patient in her third pregnancy was brought to me for a Caesarean. She had never had a break in compensation. The presenting part was low in the pelvis and the cervix was very soft. It was also requested that she be sterilized. I refused to do the Caesarean and she later delivered herself very readily of a good sized infant. Perhaps the labor did strain her heart somewhat, but what about the strain of a Caesarean? The pain and discomfort necessitating morphia not infrequently over two days, the distention oftentimes marked and in a cardiac a complication much dreaded—are not these points to be remembered when we recommend a Caesarean on a cardiac case?

Perhaps I am giving the wrong idea about Caesareans—I would not have you think that I condemn it in all cases except where there is disproportion present—far from it. I have done Caesareans on all the groups I have spoken of, but what I would convey is that each and every case must be studied carefully on its own merits and one must not operate first and think later.

If the Caesarean operation is the simple operation that it is claimed to be, why do we obtain

such a high mortality? The technique is simple, but the risk it entails is great.

In looking over the cause of death in Caesareans, sepsis accounts for the large majority. Why should this occur? Chiefly because of the fact that certain well-known factors are ignored. A Caesarean done after hours of labor, perhaps with ruptured membranes, frequently with vaginal examinations, is almost sure death to the patient. Every once in a while one is done under these conditions and infection does not appear, and then it is again done, but this time death follows. The surgeon without obstetric training is the worst offender in this type of case. The majority of hospitals do not have obstetric services with trained obstetricians in charge. A case is sent into the hospital by an outside physician for a Caesarean. It goes to the surgical side and a surgeon is called, and he, knowing next to nothing about the proper means of delivery, performs a Caesarean because he has been asked to. He may be right, more often he is wrong, and the patient succumbs, usually to sepsis. The fact that the patient has been long in labor and had many vaginals does not interest him. His problem is to get out the baby that is *in utero*, and the only way he knows how to do it is to cut.

A Caesarean should not be done on a patient some hours in labor who has had vaginal examinations, especially with ruptured membranes. The risk of operating on such cases has again and again been proved, and yet it still is being done. It should be an axiom that in any case where there is a possibility of having to perform a Caesarean, no vaginal should be made. Progress of the labor in these cases must be followed by palpation combined with rectal examinations.

The majority of the disasters from Caesareans come in the so-called "late Caesareans," and if physicians would only remember this fact, many of the deaths could be avoided. Deaths from embolus do occur from Caesareans much more frequently than in normal deliveries, and it is a cause which we at present cannot overcome. Another cause frequently put down for death is either acute dilatation of the stomach or some form of ileus. Personally I have never seen acute dilatation of the stomach cause death, and I am more than suspicious of the true cause of death when the death certificate says ileus, for back of all cases of ileus is probably sepsis. Sepsis cannot be ruled out unless an autopsy is obtained, and this in obstetrics is all too seldom sought. Within a few years at a nearby hospital one doctor lost three Caesareans within three weeks, and the certificates were signed "paralytic ileus" and "vasomotor paralysis." Further comment on these cases is unnecessary, except to say that in the surgeons' room of this hospital is the notice that no section shall be done without consultation. That point "without consultation" is valuable, and another valuable aid is the staff meetings that are now being held in many of the hospitals. A physician does not like to have his bad results aired before a group of confrères, and he becomes very careful what operative procedure he does.

What stand shall we take on the dictum, "Once a Caesarean, always a Caesarean"? Are we ever justified in letting a woman attempt to deliver herself in a subsequent labor after we have done a Caesarean? We know of cases where delivery from below has followed a Caesarean, but shall we advise it? If I must answer that question "yes" or "no," I at once say "No." If the Caesarean was done for pelvic deformity, then the same condition holds and a Caesarean is done. But what of the case, say, of a primiparous breech or of a pelvic tumor or of a praevia or of a toxemia in the first Caesarean? Shall we insist on a repeated Caesarean? Undoubtedly a Caesarean scar may give way under labor or during pregnancy. Holland finds that about four per cent. of Caesarean scars rupture. Each individual case must be studied on its own merits. One thing is certain, a patient who has had a Caesarean must not be left at home alone in labor. If you determine not to repeat the Caesarean, then the patient must be sent to a well-equipped hospital and preparations for a Caesarean completed. Do not force her to deliver herself, but as soon as the os is dilated, deliver her. The greatest risk comes in the second stage, and because of the number of spontaneaus ruptures that have followed Caesareans during pregnancy, it is my feeling that a patient who has had a Caesarean section once done, must always, when again pregnant, be kept within easy access to a well-equipped hospital. What I personally try to do in regard to Caesareans is to do so few that when the question of a second arises I feel justified in doing it again.

The question of sterilizing a patient upon whom a Caesarean section is done is becoming more and more insistent. It is being done regularly in one clinic at the third Caesarean. I am constantly being asked to do it on the second and not infrequently at the first. If the Caesarean is such a simple operation without risk, why should the question of sterilization come up at all? The answer is obvious. The patients do not regard it in such a simple light, and they wish to avoid the risk and discomfort which attend a section. If there is some marked physical disability present, then the question of sterilization takes on a different point of view, and I never hesitate to do it.

The most recent analysis of Caesarean sections in this State has just appeared in the State Board of Health's publication, *The Commonhealth*. By this study it was found that 102 women, in 1922, died following this operation, giving a mortality of 8.8%. In any elective op-

eration that gives such a high mortality something is wrong, and demands study. Many operators have a mortality rate of between 2 and 4%, and when the rate runs up to 9 and 10% it is time to call a halt and see what is wrong. When a physician advises a Caesarean section he has no right to say it is a simple procedure without risk. The risk is what his own mortality rate is, not the rate as given for a picked group of cases. In this group of 100 cases analyzed, in 37% the primary indication was obstruction and in 25% toxemia. I hold that if all of those toxemic patients had had complete, intelligent prenatal care, there would have been no question of operating on any such number. It is difficult to speak of the obstruction cases, for the details of each case are not given, but it is fair to say that if these cases were operated upon early and with good technique, they should not have helped swell the total mortality to 9%.

Let me run over the other indications as recorded in these one hundred cases: Hemorrhage, organic heart disease, abnormal presentation, uterine inertia, previous Caesarean, heart and kidney, ruptured uterus, previous operation for prolapse, malposition of cervix, request of patient, irregular fetal heart from 156 to 170 over a seven-hour period.

Study of the causes of death in these Massachusetts cases is most illuminating. Thirty died of sepsis and 23 of toxemia. The usual cause of death in a Caesarean is sepsis, and those operators who made this mortality should carefully consider hereafter their indications for operating. The reason that there is no concerted action against these poor results is that the deaths are scattered throughout the State, and no one hospital, no one man, except the one already spoken of, obtains many deaths. This to me is the discouraging part about this Caesarean situation. It is spread throughout the State, and there seems to be but little effort to improve it. Forty-two of these patients were sent to hospitals as emergencies. These patients, of course, did not have proper supervision or they would not have been subjected to an emergency operation which proved fatal. Embolism caused seven deaths, organic heart disease nine, and hemorrhage eight. Acute dilatation of the stomach accounted for nine deaths, and the remainder were assigned to various causes.

Seventy-five of these deaths occurred in women who were under 35 years of age, and the 100 mothers who were lost left a total of 150 living children. Are not these figures a terrible commentary on our obstetrics? Let us go a little further with these unpleasant figures. Twenty babies were stillborn and six died within 24 hours. Ten babies died later, and 67 babies survived. Think of it! One hundred mothers died and only 67 newborn babies survived—and the Caesarean is a life-saving operation sure to obtain a living child!

Now from these unpleasant thoughts let us turn to other points. What about the incidence of Caesarean section in various clinics? The Long Island College Hospital does one in 125 cases; Johns Hopkins, one in 110; New England Hospital for Women and Children, one in 102; Robinson Memorial, one in 40; Sloan Hospital, one in 36; Boston Lying-In Hospital, one in 30, and Potter in Buffalo does one in 14. Why this wide variance in the incidence? Can there be any such difference in the patients' pelves or in the occurring complications between New York and Buffalo to justify one Caesarean for every 14 births in the latter city, while only one in 125 is done in New York? The answer is clear. It is not because of the patients or of the complications, but because in one instance the patients are looked after by a clinic and in the other by an individual.

The element of time must be an important factor in determining whether or not a Caesarean is to be done. Time, I believe, frequently may be the determining factor for many of us. A slow, trying, long-drawn-out case tests our real knowledge of obstetrics more than anything else, but in our present-day hustle a slow case has no standing, and we at once determine to end it with a Caesarean. A section is a great time-saver, and for that reason holds a high place in many physicians' opinion. I have done my share of Caesareans with results that I am not ashamed of in any way, yet I do not like to do them, and if by careful supervision and gentle operating I can carry a patient through without one I much prefer to. What I especially try to do is to avoid a section on a young patient who has many years of child-bearing ahead of her. Again and again have I carried young patients through hard labors and operative deliveries successfully, to have them go through their next labor most easily. I would not put a patient through a hard labor knowing that the chances of losing the baby were very great, but I would many times rather lose a baby occasionally—very rarely—than to be guilty of doing Caesareans for some of the indications for which certain physicians are constantly operating.

I think from what I have already said I have proved to you that the Caesarean operation is widespread, that here in Massachusetts the results are not good—a mortality rate of 9% in any individual's series surely would not be regarded as good, and therefore we cannot regard them for a group of men as good.

The chief point is how are we to improve these results. The first way is to stop this indiscriminate operating. I do not for one instant believe that there was any real obstetric need to have subjected last year nearly 1200 women to Caesarean section in Massachusetts. It was last

winter at one of the medical meetings in Boston that one of the speakers said that if a week went by in the smaller hospitals and a Caesarean was not done, it was felt that the community was not being treated justly. I would not subscribe to this statement, but it shows the feeling that is present among some thinking physicians. It is one thing to say "Stop operating," and another to accomplish it. If in all hospitals the rule that I have already spoken of, of having a consultation before operating, were in force, a great number would be stopped at once. If all the larger hospitals had good obstetric services there soon would be developed a group of men well trained in obstetrics who would not do the foolhardy things that many of the general surgeons do. We cannot expect to do away with emergency operating unless every pregnant woman is intelligently supervised throughout the major part of her pregnancy. If she is so watched over, then we will know early the contracted pelves, the pelvic tumors, the abnormal presentations, and do an elective Caesarean under ideal conditions with every expectation of having both the mother and the baby survive. We further will cut down almost entirely the 25% indication of doing Caesareans in eclamptic cases with its 23% mortality.

The other chief cause of death in Caesareans is septicemia, which here with us amounted last year to 30 per cent. To lower this rate we must stop the late operating,—by that I mean when the woman has been in labor from twelve hours to three days. Long-ruptured membranes combined with vaginal examinations is the common cause for sepsis. I was recently called to a woman in active labor who had had a previous Caesarean. She had been examined several times by her physician with unwashed hands, and yet he expected me to do a second Caesarean on her for him at once. When I refused and elected to deliver her from below he was somewhat nonplussed. I had supposed that unwashed hands in obstetrics was a thing of the past. Careless vaginal examinations without aseptic precautions we all know constantly occur, and that is why sepsis so frequently follows in a Caesarean which has had vaginal examinations. Remember, if there is any possibility of a Caesarean, don't enter the vagina. If you are unable to follow the progress of the case by palpation and rectal examinations, don't minimize the patient's right to live by making careless vaginals.

I do not condemn in any way the operation of Caesarean section, but I do condemn its present status here in Massachusetts and in other parts of the country. Its frequency is totally unjustifiable, and can bring to the profession in the long run nothing but disrepute. Were the results excellent both for the mother and the baby, we might justify ourselves, but when they are as I have stated to you, it is high time to ask for explanations.

THE HEART IN HYPERTENSION AND IN NEPHRITIS*

BY PAUL D. WHITE, M.D., BOSTON

HYPERTENSION may or may not be associated with clinical abnormality of the heart. The same is true of nephritis. Yet there are characteristic changes in the heart which apparently result from these conditions. These changes I wish to discuss briefly in order to help to clear away some of the misconceptions about the so-called cardio-renal disease, a term which I believe we should discard.

But a few years ago high blood pressure meant to clinicians everywhere kidney disease. Gradually came the realization that most people with hypertension do not have any important renal changes. The expressions "essential hypertension" and "arterial hypertension" were invented to discriminate between this non-renal high blood pressure and the clearly cut type of hypertension with nephritis. E. T. Bell,[1] in speaking before the American Association of Pathologists and Bacteriologists in Boston last spring, analyzed autopsy findings in 218 cases of essential hypertension from 4,000 post-mortem records. One-sixth of these cases showed absolutely no renal atrophy and no renal arteriolar sclerosis, indicating that essential hypertension may precede the slight to moderate kidney change that is frequently found in this condition. In his analysis of these 4,000 post-mortem records he found that essential hypertension occurred four times as often as chronic glomerulo-nephritis, a ratio of 213 to 56. This it seems to me is a conservative figure as we see cases in the wards and dispensaries of our large hospitals. Essential hypertension far exceeds in frequency hypertension associated with nephritis.

HYPERTENSION

The mechanism of the production of hypertension, whether essential or renal in type, is not clear but it is probable that in the former it is the result of extensive vascular irritability and constriction (due either to early arterial change, or to toxic or nervous effect, or both) and in the latter the result primarily of the decreased permeability of the kidneys, and secondarily of a toxic vascular spasm. No matter what the cause, however, the influence on the heart is clear. Cardiac hypertrophy is the typical hypertension effect on the heart whether of "essential"

*Read before the Medical Society of the County of New York, New York Academy of Medicine, Oct. 22, 1923.

or "nephritic" origin. Transient slight increase in blood pressure is probably without influence, but there comes a stage when the amount of extra work on the heart as the result of a longer sustained and higher pressure is such that actual increase in volume of heart muscle results. With greater pressure or longer periods during which the abnormally high pressure is maintained (or both) greater hypertrophy ensues until finally we may have very large hearts in chronic marked hypertension, no matter whether arterial or nephritic.

With systemic hypertension which, so far as we know, is the usual type of hypertension, the left ventricular hypertrophy becomes preponderant over the slighter or absent right ventricular hypertrophy, as would be expected. On the other hand, a hypertension in the pulmonary circulation, as in chronic mitral stenosis, will of course put a greater strain on the right ventricle and cause its relative preponderance over the left ventricle in weight. Sometimes, though not commonly, both factors may be present giving rise to symmetrical hypertrophy of both ventricles.

Physical examination in the case of left ventricular hypertrophy with systemic hypertension will generally show a forceful apex impulse beyond the midclavicular line and sometimes in the sixth intercostal space. The left border of percussion dullness will correspond. The increase in heart size varies in general with the amount and duration of the hypertension. With pulmonary circulatory hypertension the apex impulse or retraction, if produced by the right ventricle, will also be beyond the midclavicular line, less often in the sixth space. In either case there will be increased dullness to the right of the sternum and increased pulsation in the epigastrium if the heart is big enough.

X-ray examination and electrocardiographic study are often helpful—the x-ray showing the increase in heart size with less differentiation, however, between left and right ventricular preponderant hypertrophy than can be obtained by the electrocardiogram. In spite of the discrepancies that have been found between electrocardiograms and ventricular weights postmortem I am convinced that there are fairly characteristic records in the main of systemic hypertensive and of pulmonic hypertensive hearts. There are definite reasons for the discrepancies that have been published. I am now reviewing the electrocardiographic plates of the last nine years (over 4,000 cases) at the Massachusetts General Hospital, in order to assemble the data bearing on the clinical value of the electrocardiogram in the diagnosis of left or right ventricular preponderance as shown by abnormal left or right axis deviation.

No murmurs or changes in heart sounds need occur in hypertension. A functional apical systolic murmur is, however, common, especially when failure begins. An aortic systolic murmur may be found with aortic dilatation, but there are no thrills. Accentuation of the aortic second sound is common with systemic hypertension and of the pulmonic second sound with pulmonic hypertension.

Auricular fibrillation is unusual in my experience in the pure condition of hypertensive heart disease. Also I have not seen heart block in the absence of coincident syphilis or coronary sclerosis. Pulsus alternans, on the other hand, is not uncommon and occurs generally in congestive failure where the blood pressure is still high. Heitz[2] believes that renal insufficiency aids in the production of pulsus alternans. Premature beats may or may not be found in hypertensive heart disease.

Dilatation of the cardiac cavities does not apparently occur early in hypertension. In general it is one of the features of beginning failure as contrasted with the left ventricular dilatation that comes without failure in well-marked aortic regurgitation. When the stage of dilatation occurs, more of the left ventricle in systemic hypertension and more of the right ventricle in pulmonic hypertension, it becomes increasingly difficult to analyze the cardiac enlargement found, that is, as to the relative effects of hypertrophy and of dilatation in causing the enlargement. In the main, therefore, it is wiser to speak clinically, in such cases, of cardiac enlargement rather than of either cardiac hypertrophy or cardiac dilatation alone. Neither hypertrophy nor dilatation of either ventricle will remain long wholly one-sided—generally there is some, though often minor, change in the other ventricle as well.

The onset of obvious cardiac failure may also at first be mainly one-sided with an exhausted left ventricle in systemic hypertension and an exhausted right ventricle in pulmonic hypertension. In the former case systemic œdema Cheyne-Stokes respiration, and other evidences of faulty systemic circulation may occur, while in the latter case cough, dyspnœa, pulmonary œdema and engorgement of liver and neck veins appear. Neither ventricle remains long alone in the picture, however, since insufficient oxygenation of the blood in right ventricular failure will help to exhaust the left ventricle, and insufficient coronary circulation in left ventricular failure will help to exhaust the right ventricle, in addition to the cardiac derangement from the general effect of sluggish circulation and imperfect blood oxygenation.

Renal engorgement in the course of the congestive failure of hypertensive heart disease may result in albuminuria, oliguria and sharply reduced renal function with nitrogen retention. A patient seen at such a time with congestive failure and hypertension may be labelled "cardio-renal." As the congestive failure disappears under treatment the urine clears up and

renal function becomes normal again. Still another patient who has undoubtedly often come into the category of "cardiorenal" in the past is the case of arteriosclerotic heart disease with congestive failure and temporary renal insufficiency. Even the rheumatic heart I have seen so labelled. The chronic nephritic patient with his hypertensive heart enlargement might be better classed as cardiorenal but from the circulatory standpoint he would be better called "hypertensive heart disease with nephritis, and with or without congestive failure or uremia."

Of further interest is the fact that many cases of so-called "chronic myocarditis" have really hypertensive hearts though others of the patients labelled "chronic myocarditis" do have myocardial degeneration resulting from coronary sclerosis. This liability for confusion would suggest that the use of the term "chronic myocarditis" might well be discontinued for these cases along with the expression "cardiorenal disease." G. E. Fahr[3] this year, in a paper on "The Hypertension Heart," considered hypertensive heart disease the most common form of so-called chronic myocarditis. He estimated that 50,000 people in the United States die from this cause every year.

A further point of much importance regards the aftermath of that essential hypertension which largely clears up. Such cases are not rare. Some degree of cardiac hypertrophy has generally occurred and persisted. This may explain some clinical puzzles. When an elderly patient with arteriosclerotic heart disease and little or no hypertension presents a much enlarged heart without adequate cause we should consider the likelihood of essential hypertension in the past. A well-marked cardiac hypertrophy I found two years ago in an active elderly physician with a blood pressure of 150 to 160 mm. mercury systolic. He had had a systolic pressure of over 300 millimeters of mercury ten years before, corroborated by several very able physicians.

The causes for heart failure in hypertensive heart disease are not clear. Probably several may occur. Simple exhaustion from the strain of long continued high pressure is quite likely an important cause. Or in the case of a heart already with little reserve left, coronary arteriosclerosis may insidiously cut down the blood supply to the myocardium and so precipitate congestive failure, or even be the primary cause itself of a different manifestation of failure, that is, angina pectoris. The pain ordinarily associated with hypertensive heart disease is a precordial ache, undoubtedly a fatigue symptom, but the superimposed coronary irritability may cause angina pectoris in such hearts. The coincidence of hypertensive heart disease (with its cardiac hypertrophy) and arteriosclerotic heart disease (with its diseased coronary arteries) is common, since well-marked essential hypertension generally occurs at an age—late middle life—when arteriosclerosis frequently begins. But they are by no means necessarily associated. It has long been known, for example, that angina pectoris may occur with perfectly normal or low blood pressure. Other less common causes for the precipitation of congestive heart failure in hypertensive heart disease are great strains—physical or mental, infectious diseases or the poisoning from nephritis or renal insufficiency.

The treatment of hypertensive heart disease is twofold—first to attack the causes of the hypertension if we know them—hurry, worry, overeating, nephritis—and second, to combat congestive failure, when it appears, by the usual methods—rest in bed, digitalis, diuretics and sedatives.

NEPHRITIS

Nephritis probably has less direct effect on the heart than has hypertension. Acute or chronic nephritis, if not attended by uremia or hypertension, apparently involves the heart little, if at all. The hypertension of nephritis will act, so far as we know, precisely as will the hypertension of essential type—to produce hypertrophy and, as the heart fails, dilatation too. There is also, however, a very distinct toxic effect on the heart as well as on other tissues of the body when renal insufficiency is marked, as in uremia. If the heart is already weakened by arteriosclerosis, hypertension or infectious toxin, this uremic poison may precipitate failure. Often, however, the nephritic patient's death is from general systemic intoxication.

Dr. Wood and I[4] found last year that occasionally in uremia there is a well-defined disturbance of the mechanism of the heart beat; this may show itself in depression of the sino-auricular pacemaker with bradycardia, or in ventricular escape or in auriculo-ventricular or intraventricular block, or in abnormalities of the T wave of the electrocardiogram—functional disturbances all of them and sometimes varying from record to record in a single case. Twelve out of thirty-eight cases investigated showed one or more of these changes. The abnormalities did not run parallel with the renal functional tests or with the nitrogen retention in the blood, but roughly varied with the clinical condition of the patient. They undoubtedly illustrate uremic toxic effects, and doubtless the whole myocardium is somewhat similarly affected. Some of the findings resembled results from digitalis intoxication, so that it would seem that in uremia there is a toxin in the blood resembling digitalis in some ways at least in its effect on the mechanism of the heart beat. It is possible that in lesser stages of renal insufficiency in nephritis there may be continual slight heart poisoning, but of that I am not certain. Hypertension and uremia may act on the heart simultaneously in nephritis.

Before leaving the subject, the pericarditis occurring terminally in some cases of severe nephritis should be mentioned. A. L. Barach,[5] failing to find evidence of infection in these cases, suggests that they are of toxic, non-infectious origin.

SUMMARY

Hypertension, with or without nephritis, causes cardiac hypertrophy unless it is slight or transient. Dilatation and congestive failure may ensue when the myocardium is sufficiently fatigued or when coronary arteriosclerosis or the toxic effects of infection or uremia are superimposed.

Nephritis may damage the heart through the secondary effect of its hypertension to cause hypertrophy, or through the direct effect of uremic poisoning to depress the heart.

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MEDICAL IMPRESSIONS OF THE PHILIPPINE ISLANDS

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THE Philippine Islands present many interesting problems in medicine, not the least of which is the furtherance of the public health and sanitation programs which have been so admirably carried out since the American administration began, over twenty years ago now. In Manila, the capital city of the islands, with a population of about three hundred thousand, the campaign has progressed to a point where living is very favorably comparable to that in many of our own southern cities. Where a bare quarter of a century ago malaria, cholera, plague, dysentery, smallpox, and a host of other infections ran rampant, today, with only the most casual precautions, one can live an ordinary existence without much fear of these infections. This is true in a somewhat more restricted degree of the other two principal port towns, Cebu and Zamboanga. Unfortunately, however, this is not the case when we consider the islands as a whole, and it is quite extraordinary how little the average Manilan knows of the rest of the islands.

This I have found is true also among Americans. To most of us the word Philippines has very limited associations. It may bring to mind Manila, which in turn reminds us of hemp. And in a general way we know that the islands exist as a political problem. It would be almost safe to wager that less than 10 per cent. of you who read these paragraphs would spell Manila, Philippines and Filipinos all correctly. And even the geographical relations seem to be somewhat uncertain in many people's minds, as evidenced by some of the mail I received addressed to the West Indies, Cuba and Panama.

How many of us realize the economic importance of the islands? Yet their sugar, hemp, tobacco, and cocoanut products supply a world market; their mineral deposits are nearly untouched; the possibilities for cattle raising are almost unsurpassed in some parts of the islands; their embroidery industry reaches into millions of dollars annually, and as a trade distributing center for the whole Orient their value is inestimable. And we sit back and let the situation drift, taking no active part in a discussion or consideration of the future. Whether the Philippines secure independence now, or fifty years from now, or never, is not a point I wish to discuss here. It is simply to call attention to the fact that they exist and are of untold economic importance to the world, and that for this reason, if for no other, an intelligent consideration of the health problems which they present is of primary importance in their development.

You who have not seen what malaria can do on a sugar or hemp plantation, or what economic loss the hookworm can cause indirectly in the rice crop, cannot realize the tremendous importance of public health work, from the sordid point of view of dollars and cents, leaving aside for the moment the humanitarian side of it.

With these few rambling introductory remarks let me turn for a moment to a few personal observations which I had the opportunity of making during a five weeks' trip around the principal islands while serving as a medical officer in the Philippine Health Service during one of its leper collecting trips. This was a somewhat unusual opportunity and one which I fully appreciated and thoroughly enjoyed. Our boat was a small revenue cutter slightly under five hundred tons in size, and in those five weeks we covered just over five thousand miles (nautical), so that some idea of the area which the islands cover is suggested.

Leprosy is naturally the disease on which our interest centered during this trip. As many of you know, there is the largest leper colony in the world in the Philippines, located at Culion, one of the smaller and isolated islands about 250 miles south of Manila. At the present time approximately 5000 lepers live in this colony. These represent the disease in all its phases, from the earliest to the very most severe lesions. During the year the local health officers collect the lepers from the various provinces as the cases are discovered and keep them under observation in some central point. Then semi-

annually or oftener, as circumstances may warrant, a boat is despatched to these central points to transport these new cases to the colony. And it was my good fortune to be assigned to one of these trips. Each case has to be proven bacteriologically before being transferred to the colony, and that is the chief duty of the medical officer on the boat.

For purposes of convenience leprosy is classified in three groups,—the purely anesthetic type, the pure tubercular type, and the mixed type. The latter group makes up probably more than two-thirds of the cases. With the encouraging results which the newer treatment of leprosy with certain of the chaulmougra oil derivatives is giving, less difficulty is being encountered in persuading lepers to present themselves to the health officers for examination. In the early days it was usually a question of force to secure an examination. This is still true among some of the people of the interior who have not as yet reached the same state of civilization which the coast people have. This is particularly so among the Moros, who feel that such infringements of personal liberty are entirely unwarranted, and do not realize that the few have to conform to certain regulations for the benefit of the many. Even among these people, however, there is a very marked change in their reaction to the public health officer, and everything points to a slow but certain improvement. On this particular trip we brought back to Culion over thirty relatively severe cases among these people, and at no time was any difficulty experienced in handling them. As a matter of fact, living conditions at Culion are so much better than in their native state, and so many of their own people are there now, that in a very short time they are much happier than at home, for they are simple people and quite adaptable. Of course, difficulty is still experienced occasionally. Lepers are "hidden-out" in caves and tiny huts, where the health officer is not liable to find them, but this practice is diminishing year by year.

As a result of the administration's policy, leprosy is slowly disappearing from the islands. Contrast it for a moment with India or some parts of China, where no effort is made to check the disease by segregation. No means of estimating the frightful spread is available. In the Philippines, on the other hand, all the known lepers are under observation. As new cases are discovered they are immediately isolated and transferred to Culion, thus no longer acting as potential foci of infection. It has been variously estimated that there are still from three to five thousand cases of leprosy which have not yet been discovered or are still in the long incubation period without manifest signs as yet. Even this maximum figure of 5000 cases makes a total of only 10,000 possible cases, which is a very low index in a semi-tropical country where the condition exists at all, *i.e.*, 0.8 cases per 100 of population. In all we collected 76 lepers, three of which showed purely anesthetic lesions with trophic changes involving the hands and feet especially. Six of the remainder were well-advanced cases with only tubercular lesions demonstrable. The remainder were divided between early acute cases in which the tubercular side predominated, which made exact classification difficult, or advanced cases of the definitely mixed type.

FIG. 1.

FIG. 2.

Next, from the point of view of interest in the unusual, come the cases of framboesia tropica, or popularly, "yaws." This is quite widely distributed throughout the islands, but is particularly prevalent in Mindanao, the second largest island of the Philippines, and inhabited princi-

pally by Moros, the Mohammedan tribes of the south. This is a disease caused by a spiral organism morphologically almost indistinguishable from the spirochaete of syphilis, but presenting characteristic skin lesions which distinguish it readily clinically. In the late stages it also may involve the bones, like syphilis, but unlike it, yaws never apparently causes central nervous lesions comparable to tabes, paresis, etc.

In a paper of this sort no attempt can be made to go into the clinical or pathological aspects of the diseases under discussion except in the most superficial way. Accordingly, yaws must be dismissed with the following summary: The disease begins with a primary lesion or sore, rarely genital, which usually ulcerates and is spread by rubbing to other parts of the body. The primary and secondary lesions are similar in appearance: (Fig. 3), raised, heaped-up epithelial verrucous-like nodules with the characteristic "raspberry" surface, from which the disease derives its name. Usually these break down and ulcerate. Later there may be involvement of the palms of the hands and soles of the feet, the so-called "clavus," or of the bones, chiefly the nasal bones, producing a special group of cases spoken of as "gangosa," with frightful deformities. (Fig. 4.) This disease may be completely incapacitating and often runs a chronic course for many years, so that it may prove to be of very considerable economic importance. Treatment of the cases with the primary or secondary lesions is little short of miraculous, clearing up in a few days to weeks following a single injection of arsphenamine.

As a casual observer of several hundred of these cases in Mindanao which had come into the provincial hospital in many instances as suspected leprous cases, I feel that an intensive campaign directed against this disease, with an adequate health force and an almost unlimited supply of arsphenamine, would do more good than any one single method of attack of the whole problem of sanitation. Its advantages are obvious: with a people to whom medicine is still a mystery, and whose confidence must be secured before a real solution to hygienic measures can be attained, the sensational, spectacular results which are obtained in the treatment of this disease serve as a very useful vehicle to carry along the message of other less dramatic but equally important measures. Time after time the local health officers told me of treating a few cases of yaws with the available arsphenamine, and in a week or so of being literally besieged with sufferers from miles away, who had to be turned away for lack of the drug. The result has been that in many districts the health officer has lost much of his influence, simply because he has felt obliged to refuse treatment to any of these cases.

Another disease which is much underestimated in its importance is hookworm infection. The Philippines are essentially an agricultural country. One of their greatest industries is the growing of rice. As yet the production of rice has not reached the proportions where they can export any, for it is the staple and principal

Fig. 3.

Fig. 4.

article of diet. Indeed, the Philippines annually have to import from Japan and Indo-China a large amount of rice to supply the annual deficit. This will unquestionably be altered in the course of a few decades, for the Philippines should easily be able to feed her own population of nearly 12,000,000 people and still export rice in relatively large quantities. One of the reasons which retards this development is the physical condition of the laborers, especially in the lowlands. To most of us, the method of growing rice is a mystery. The fertile lowlands are terraced and irrigated intensively, the rice

fields appearing as miniature lakes with several inches of water overlying the fertile muddy soil. Then the workers plant each previously sprouted rice plant by hand, wading knee-deep in this mud. When it is harvested the same wading process is gone through again. No Fordson tractor has yet been invented which will replace this particular kind of agricultural work. To those of you who know the life cycle of the hookworm this brief description has served to show the method of infection. The soil is all thoroughly infected, for no sanitary methods for the disposal of excreta are in force in these rural districts, and indeed human excreta is used quite extensively as a fertilizing agent. The hookworm larvae gain entrance to the body through the skin of these rice workers, and then go through their normal development in their host. If the infection is heavy, as it usually is in these cases, there is a noticeable inefficiency among the workers, with the familiar symptoms of lassitude, anemia, weakness, fatigue, edema, etc., often approaching a stage where complete incapacitation occurs. Statistics from many sources, particularly those of the Rockefeller Foundation, which is working on this problem in its international aspect, show that from 40 per cent. to 60 per cent. greater efficiency may be expected when these individuals are freed of their infection.

On this trip one of the Foundation men accompanied me, Dr. C. N. Leach, who has been surveying the Philippines in this respect, and we arranged with all the local health officers to have from one to three hundred fresh stools for examination when our boat arrived in each port. These were obtained from a representative cross-section of the community, including shop-keepers, farm workers, etc. It had been suggested that in the Moro districts the percentage of infection would be much lower, for among the religious tenets of the Mohammedan faith is the belief that the excreta should be disposed of as far as practicable by running water, and it is typical of a Moro village to find it built entirely on bamboo piles out over the sea, a lake or river. It was interesting, therefore, to us to find that the incidence was approximately the same as elsewhere in the Philippines, ranging from 70 per cent. to 100 per cent. This is an interesting observation because practically the only previous figures available in this respect have been found in Stitt's manual, and give an incidence of only 11 per cent. This figure, which has been quoted widely, was secured from an examination of residents in or near Manila; and in an urban district, where the percentage of shoes is high and the percentage of farm laborers is low, it is to be expected that a low incidence should prevail. One feature of more or less academic interest is the fact that the two types, ankylostoma and necator, are about equally prevalent, representing the influence of the Old and the New World.

The treatment of this disease again offers a great lever in the introduction of sanitary measures. Strangely enough, however, it is not the insignificantly sized hookworm which gives the response of the people to treatment, but the relatively unimportant, but impressively large ascaris. Where a hookworm campaign, using purified carbon tetrachloride in doses of 5 to 10 c.c., is in progress the people flock for treatment, and view with amazement and relief the appearance of often twenty or more large ascaris worms in the stools they pass, entirely disregarding the more numerous but minute hookworm. With these worms as an object lesson it is not difficult to preach the value of proper disposal of excreta, with the ultimate object of reducing the infectivity of the soil rather than aiming at the curing of the individual cases, for reinfection is the order as long as the soil remains polluted.

In view of some of the adverse criticism found in the various medical journals, concerning the use of carbon tetrachloride, may I simply record the fact that in the treatment by the Philippine Health Service, in coöperation with the Rockefeller Foundation, of over 25,000 cases of hookworm infection, using the drug in massive doses of 1 c.c. for each six kilos of body weight, I have never heard of any untoward result or of anything worse in the way of reaction than a few hours of nausea. Ordinarily no ill effects at all are encountered when a thoroughly purified form of the drug is used, removing all traces of phosgene and carbon bisulphide particularly. The unpleasant reactions and even fatal results reported by various workers using 2 and 3 c.c. doses I am convinced are due to the use of a commercial or improperly purified drug.

That it is unquestionably the best anthelmintic as yet employed is constantly evidenced by the results obtained with its use following treatment with other drugs. I recall a typical case in Davao, Mindanao, at the hospital there. The case was a severe one of real hookworm disease. The patient had submitted to five distinct courses of treatment, using betanapthol, chenopodium and thymol, and still his stools showed the presence of hookworm ova. The carbon tetrachloride was administered to him at 9 a.m. At 11 a.m. he passed a stool in which 843 adult worms were found. During 24 hours he passed about 100 additional worms, and a month later a report indicated that he had remained negative by stool examination since that time, and that his general condition showed marked improvement. I cite this merely as a typical case, to illustrate the efficacy of the drug, and to try to help quell the apparent illusion that carbon tetrachloride is a dangerous drug to employ. It

is not dangerous, even in large doses, if a pure drug is used.

Malaria is the next large problem which needs particular attention on a huge scale. There are certain districts where malaria prevails to a distressing degree, practically showing a 100 per cent. incidence. In a country where labor has been apparently inexhaustible it has long been a principle of planters to work their laborers until they are totally incapacitated, then bring in a new gang and work them, more or less literally, to death. These planters are beginning to realize that this is no longer an economical or efficient way of maintaining production, and are gradually learning that a few hundred dollars invested in preventive medicine and in the care of their employees is far more profitable, and simplifies their labor problem, for the average laborer is far more interested in working for a man who he knows will take care of him if he falls ill than for the older type of slave-driver. Profiting by similar experience in other countries, many of the planters in the sugar and hemp districts are combining in an attempt to exterminate, or at least control, the malarial situation. That it can be done, has been demonstrated by many of the rubber planters in the Federated Malay States, and the cost of the introduction of these methods pays for itself within the first two years, as a rule. Once exterminated, the control of malaria is relatively simple and inexpensive. It is the initial cost which discourages many of the planters, but there is a noteworthy improvement in this regard, and I am hopeful that within the next ten or fifteen years the situation will be within sight of its goal. At present Davao, in Mindanao, the hemp center of the islands, is the most discouraging area, while the island of Negros, where the best sugar cane is grown, is about as bad. Surveys are being made at the present time, and recommendations being offered, and the planters are beginning to coöperate, so that the ultimate outlook is hopeful. All three types of malarial parasites are present in the islands, but it is the tertian which predominates.

Next in importance come the dysenteries, of which amebic is the most significant in point of number of cases. This is widely distributed over the entire islands, and offers a much more difficult problem of eliminating than many of the other more striking and severe infections. The percentage of individuals showing symptoms of dysentery or of amebic infection is so small, relatively, as compared with the number of people harboring the organisms and thus acting as carriers and potential sources of infection, that no adequate estimate of its extent can be made. In its active stages the disease is totally incapacitating, but in its less virulent and chronic forms, it also plays an important part in the retardation of the economic development of the country. Again, sanitation with the proper disposal of excreta, preventing thereby further soil and water pollution, is the keystone of its ultimate eradication, coupled with the intensive treatment of all the recognized cases with the newer emetin compounds.

While discussing the diseases of the gastro-intestinal tract it is fitting that some mention be made of typhoid and paratyphoid infections. The latter, at least, the true para A type, can be disregarded, as it is practically non-existent. On the other hand, typhoid itself is endemic in the islands, and there is usually a small outbreak toward the close of the dry season each year. In Manila the situation is bound to improve with the completion of the proposed improvements in the water supply, which has proven to be inadequate at these times. In the outlying districts it will take longer before the disease can be entirely eradicated. Prophylactic vaccination goes on intermittently, and eventually it may be hoped that the disease will not be a menace to health, as it still is, to a limited extent, today. It will require rather more drastic regulations than have been in force the last few years, however, to accomplish this result.

Cholera, on the other hand, seems to be almost a thing of the past. An occasional sporadic case turns up from time to time, chiefly in Manila, and often can be traced to outside shipping.

Two other infectious diseases which were of great importance only a few years ago, seem to have practically disappeared. I refer to smallpox and plague. In a year's stay in the Philippines I didn't have an opportunity of seeing a single case of either of these diseases.

In this connection, however, it might be advisable at this time to take up the cudgel in behalf of vaccination, as there is so much misinformation being maliciously spread in lay journals by certain of the pseudo-medical cults. While it is true that in 1918 and 1919 there was a frightful incidence of smallpox in the Philippine Islands, with over 50,000 deaths, it was found to be due entirely to lack of vaccination, beginning about 1913. That this situation existed was not realized by the authorities, as an adequate supply of vaccine was being prepared to maintain efficient prophylactic protection. Unfortunately, most of this vaccine found its way into waste baskets, or became spoiled through delayed use, because of inadequate refrigeration. Practically 80 per cent. of the cases occurred in young children, born since 1913 and unvaccinated. The others were among people who either had been vaccinated but whose vaccinations did not "take," or had been vaccinated at some much earlier date. An indisputable argument for compulsory generalized vaccination is to be found in the report of Victor Heiser of the Public Health Service and C. N. Leach of the Rockefeller Foundation, who investigated this problem in the Philippines. This

can be found in the *Journal of the American Medical Association,* vol. 79, page 41, in full, and is available to anyone who wishes to judge fairly the facts concerning vaccination. Since 1920, with adequate vaccination again in force, not a single death from smallpox has been reported, to my knowledge.

The real menace to health in the Philippines is not to be found among the tropical diseases. It is tuberculosis, the white plague of the entire civilized world, which keeps the mortality at a high figure. Various surveys are in progress among the Constabulary and Scout troops to find the actual incidence. From autopsy statistics, we are forced to conclude that over 35 per cent. of the total deaths are due either directly or indirectly to tuberculosis, and that there is a demonstrable tuberculous process or scar in well over 50 per cent. of the routine autopsies. This is, I feel safe in concluding, practically entirely of the human type, for very little opportunity for bovine infection occurs, as almost no milk is drunk. Most of the cattle of the typical farmer are the water buffalo, or so-called "carabao." They are essentially work animals, with a very small udder and milk supply. The milk, furthermore, is rather strong in taste, and averages over 10 per cent. of fat, so it is not used very extensively as a beverage. It is interesting to note in this connection two things: first, there is a relatively low incidence of tuberculous meningitis, and second, that tuberculosis of the intestines is quite common. Furthermore, tuberculous cervical lymph-adenitis has nowhere near the high relative incidence which we see here. Pulmonary and renal phthisis are extremely common, however. The question of education in respect to this disease will prove to be a difficult one. In the first place the houses are overcrowded, and sanitary methods are not the rule, either in the preparation of food or eating it, to say nothing of the disposal of sputum and other excreta. Betel-nut chewing is somewhat in excess of our own "chewing-gum" habit, and everywhere on sidewalks and streets one sees evidence of the red stains of sputum. In this respect they may perhaps serve as an object lesson, for the stains are so obvious that if some of the elementary principles of the spread of disease can be taught, this very habit may prove a blessing in disguise, in effecting its diminution. But tuberculosis is, and will be for many years, the real problem which the Philippines have to solve if they wish to take their place economically among the nations of the world.

These diseases that we have discussed briefly, up to this point represent the more widespread, and accordingly, the more important diseases from the point of view of general public health problems. There are countless others with a more restricted distribution which are of more interest to the research man. For example, in one small area scarcely covering more than twenty or thirty square miles is a focus of filariasis. Careful examinations of the blood of people from this locality show a very high incidence of infection. The filaria can usually be demonstrated in the blood even during the day, although a much higher figure is obtained by searching for the organisms in blood obtained during the evening. Interestingly enough, only a very small percentage of these cases show elephantiasis, but nearly all the true cases of filarial elephantiasis seen in the islands can be traced back to this region. The scrotal form of the disease is the only one prevalent to any extent, although elephantiasis of the vulva or of the extremities is occasionally found.

In another region, on the island of Leyte, there seems to be a definite focus of schistosoma japonicum infection. The chief point of interest in this particular disease is that the recognized vector, or intermediate host of the parasite, the Blanfordian type of snail, has never been found, and no other intermediate host is definitely known for the organism. The disease is thought to have been brought to the locality by Japanese who settled there many years ago. The statistical evidence which is gradually accumulating seems to suggest that there is a wider distribution of this parasite than has been previously thought, but it offers a field for much investigation before this problem can be considered solved.

Another condition which seems to show a much greater incidence in certain localities is lithiasis in general, and particularly nephrolithiasis and bladder calculi. A paper about to appear in the *Philippine Journal of Science* by Dr. M. P. Mendoza-Guazon emphasizes this fact. It represents the statistical study of approximately 10,000 autopsies, performed by the various members of the pathological staff of the College of Medicine of the University of the Philippines at Manila, covering a period of about fifteen years. In one relatively high, mountainous region in Mindanao, about Lake Lanao, I had occasion to check this observation. In the small provincial hospital there, among some thirty patients there were three Moros who had just been operated on and vesical calculi of tremendous size removed. The surgeon in charge of this hospital recounted to me the fact that this was one of the commonest complaints there. He had a very interesting collection of these calculi which he showed me, all of them larger than walnuts and several as large as ducks' eggs. This particular hospital has an admission which is over 80 per cent. males, and all the calculus cases were in males. The women among the Moros are just beginning to overcome their scruples about hospitals and physical examinations. Ten years ago a gynecological examination of a Moro woman would have been an almost sure death warrant for the examiner, so much of a violation of her person it would have

been considered. This seems to be true in general of primitive people, and particularly of followers of the Mohammedan faith.

This high incidence of renal and bladder calculi is also true of two localities in the island of Luzon, one only about twenty-five miles from Manila, and very probably of other restricted areas. Numerous theories have been advanced, —the question of mineral content of the water in these places, the diet, and infections of the genito-urinary tract. It is quite probably a combination of causes rather than any single one.

These summarized impressions of some of the larger problems of preventive medicine as they were seen in the field were further supplemented by rather more specific information obtained from a year's work in the Department of Pathology and Bacteriology of the afore-mentioned College of Medicine at Manila. The Medical School there is run in association with a large 600-bed hospital, the Philippine General Hospital, which is supported chiefly by the Insular Government. It is a splendid institution, for the most part unusually well equipped, except in laboratory facilities, which are accordingly very largely supplied by the Medical School. The department of pathology does all the post-mortem work of the hospital, and so one keeps constantly in close touch with the clinical aspect of the cases. With nearly a thousand necropsies a year, including the medico-legal ones, one has an unusual opportunity to form rather definite impressions of the relative incidence of disease. Certain very striking differences from the situation here are noted.

In the first place, among the "children's diseases," scarlet fever, with its concomitant sequela of nephritis, is practically unknown. In a year there, I never saw a definitely recognizable case, although they are said to occur occasionally.

Pertussis (whooping-cough), while recognized, apparently never presents itself in the severe form with which we are accustomed to deal. Cyanosis, bulging eyes, vomiting, and the more severe "whooping" are not encountered.

Anterior poliomyelitis, I am told, has not been seen in its acute form, although a few cases of more or less typical paralyses have been diagnosed by this term in their later period.

Measles and diphtheria are more or less endemic, and quite comparable to the disease in this country.

Another disease of infancy and early childhood with which we are familiar here is rickets. In my year in the Philippines I never saw a case which I would be willing to diagnose rachitis. This offers a field for speculation. The question of fat-deficient diet as the sole cause for rickets must be discarded, for it is safe to say that every child there is on a fat-deficient diet. Indeed, the nutritional problem from the point of view of infant mortality is one of the most important factors in the islands, and yet there is no rickets. Hygiene, *per se*, again must be eliminated, for the hygiene of the poorer classes is certainly no better than it is here. Fresh air and sunlight would seem to be the factors most concerned in the prevention of the disease, for the people live out of doors the year round. Their homes are of bamboo, with split bamboo slats for flooring, through which there is constant ventilation, and all day the children are playing out of doors on the ground. One idea suggests itself in the appalling infant mortality, ranging from 35 per cent. to 50 per cent. Perhaps rickets might develop in those undernourished infants who die before they develop the disease. This theory can be dismissed almost at once, as at least some of them would show evidence of rachitis if this were the answer.

Again, scurvy is practically unknown in the Philippines. This is easily understood on the basis of diet. In a country where fruits predominate as they do there, the nursing baby gets an adequate vitamine C supply from the mother, whose diet includes fruits, or if the baby has been weaned it is almost sure to have fruit in its own dietary, sufficient to prevent the development of scorbutus.

On the other hand, when we come to discuss the other recognized deficiency disease,—beriberi,—we find that both in the adult and infantile form, it is exceedingly prevalent. This disease is caused in most instances by the monotonous diet of rice (highly polished), aided unquestionably by the deficiency in other foodstuffs. Protein is taken in minimum quantities, meat being eaten often less than twice a month. Greenstuffs are also not properly evaluated in the average diet. The adult chronic form of the disease is very difficult to treat and runs a long course, much of the time completely incapacitating the individual for work over a period of months, or even years.

The infantile form of the disease, on the other hand, is, interestingly enough, severely acute, with a sudden onset of only a few hours, and is rapidly fatal unless treated in time. By the administration of the alcoholic extract of the rice polishings, locally known as "tiki-tiki," both hypodermically and by mouth, the acute symptoms are relieved almost in minutes. The cardiac changes, naturally, take longer to disappear, but if the case is kept under observation and treatment they also gradually respond. This is another of the dramatic triumphs of experimental medicine, and has been a powerful influence in gaining the confidence of the public towards medicine.

When we turn for a moment to a consideration of some of the diseases which we see in adults particularly, we again find striking differences. Take, for instance, the group of blood

diseases. I personally saw but one typical case of pernicious anemia, as we recognize the condition here, and this case was in an American. In searching the records of the hospital one finds the diagnosis only once or twice a year at the most, and these are usually in Caucasian patients.

Leukemia, in the same way, is apparently not as frequently seen as in the United States. I saw two cases, one of the acute myelogenous variety, the other of the chronic lymphoid type. This in itself offers a problem which needs solution, and which may shed some light on the ultimate etiological factors concerned in the production of these diseases. It is interesting that these familiar blood diseases do not occur apparently with any degree of regularity in this tropical country. It forces one to think of the possibility of an infectious nature for this group of blood diseases, arguing by analogy. Just as cholera dies out in a cold climate in a relatively short time, so the possible etiological agents of scarlet fever, pernicious anemia, etc., may not be able to survive a warmer climate. I realize the almost patent absurdity of this suggestion, and I offer it in no sense as being my personal conviction, but simply to bring to mind again the fact that there still is a group of medical men who class pernicious anemia as an infectious disease, whose causative organism has not yet been discovered.

Another very interesting observation is the very low incidence of syphilis. In almost a thousand consecutive autopsies I encountered just one aneurysm of the aorta, two definite syphilitic aortitis cases, and one individual showing a primary sore. The aneurysm and the chancre both wree in Chinesee-Filipino mestizos. One of the syphilitic aortitis cases was in a Spaniard, and the other was the only case I saw in what appeared to be a pure-blooded Filipino. This observation I have checked by running over many of the earlier records and in discussion with numerous medical men in the islands. Whether such a thing as racial immunity may not actually exist, I no longer feel sure after seeing the suprisingly low incidence of syphilis. I do not think I am being unjust when I say that there is not any less opportunity for the spread of infection here than elsewhere in the world. Most of the towns are port towns, and as such are liable to the invasion of sailors of all nationalities. It is merely an interesting observation, and one which I should like to have explained. I further checked this by having routine Wassermanns done on all hospital admissions, and in the cases which we observed we found less than 0.5 per cent. of the cases positive, and many of these could be explained on the basis of an active yaws infection, which gives a very strong Wassermann reaction.

While we are on the subject of venereal disease, it is perhaps as well to mention gonorrhea. Whereas syphilis seems to be relatively uncommon, I think that the incidence of gonorrhea, if accurate figures could be obtained, would be as high or higher than here, judging by the attendance at the free venereal clinics, indicative of the fact that it is not the result of moral abstinence which keeps the incidence of syphilis down, but some rather more providential cause. Chancroids, likewise, are rather more frequently seen than around Boston, and many disfiguring scars of the genitals were encountered as a result of this type of lesion. Up to only a very few years ago prostitution was officially recognized, and registration was in force as in many European countries. At the present time the "red-light" districts have been entirely done away with. In a country teeming with Latin traditions it is still a debatable point as to whether this is the best solution of the question. Many of the medical men feel that there is an increase of venereal infection as a result, and advocate a return to the old system of regulating the traffic.

Among the other infectious diseases which warrant discussion, must be mentioned sprue. This occurs chiefly in Europeans or Americans after a relatively long period in the tropics. It is thought by some to be due to a specific Monilia (Monilia psilosis—Ashfordi), and is very distressing in its severe form. There is a marked anemia of the aplastic type as a terminal picture accompanied by great weakness and wasting; copious, pale, frothy stools and extreme pain on deglutition due to an acute glossitis. Fat digestion is impaired. Treatment is dietary, and by the use of vaccines, and is only of avail in the early stages.

Dengue is another infectious disease which is more disagreeable than dangerous. It is an acute infection running a course of only a few days, but taking a month or two to recover from. Its mortality is nil. Its course is usually described by the patient as being about two days of wondering whether he is going to die, and about three more of fearing that he won't. Its lay name, "break-bone fever," accurately describes it. Its incidence is high among newcomers, and one attack seems to confer no immunity.

One condition which is particularly interesting is the low incidence of acute nephritis. Occasional typical cases as we see them here are observed, but there is a very decided lower incidence. This is particularly true, perhaps, in children. I have mentioned this in relation to the extreme rarity of typical scarlet fever, but it, likewise, is true of other conditions. Again, typical vascular nephritis is seen very much less often than here. Several factors must be taken into consideration. In the first place, the observations of Newburgh on experimental nephritis and arteriosclerosis are perhaps perti-

nent. The diet of these people is very low, almost negligible, in protein, and is chiefly of a carbohydrate nature. On the other hand, the average age of death is very much lower than in temperate climates, and much of our "vascular nephritis" is only seen in individuals over fifty years of age. It is a well-known fact that the average blood pressure is much lower in the tropics than in temperate zones, and systolic pressures of 90 to 100 mm. are very common. A rather slow heart is also the rule. Studies on normal metabolism are in progress and may throw considerable light on some of these processes. I hope to conclude the study of two hundred kidneys from individuals over fifty years of age this winter, and thus establish the relationship of the histological findings to the gross appearance and clinical findings.

The diseases of the gastro-intestinal, respiratory, circulatory and genito-urinary tracts other than as have been already described are quite comparable to conditions here, except for the whole gamut of intestinal parasites which infest the islands. The skin infections, however, offer an entirely new field and one in which practically no work has been done. Some day it is to be hoped that someone will take the time and trouble to try to classify the various higher bacterial and fungus infections of the skin which can be found all over the islands, but especially in Mindanao.

Finally, let me consider tumors for a moment. The outstanding picture which occurs to me is the incidence of primary liver carcinoma. I personally saw twelve cases in less than a year, confirmed by autopsy, and about as many more clinically in the hospital, cases which refused treatment and went home. Of these twelve cases, nine were primary liver-cell type. As a corollary to this statement, may I also add that I saw but one case of carcinoma of the pancreas. This distribution of cancer is quite unlike that found in any of the text-books. This incidence I have also checked by discussion with other medical men of longer experience in the tropics. Furthermore, I have been told by workers in China that the same prevalence of cancer of the liver exists there. Several factors may be involved in producing these lesions. In the first place, there is a very high incidence of chronic hepatitis or moderate infectious cirrhosis. This in itself may act as an irritable agent in stimulating the epithelium. This cirrhosis is usually conceded to be due to the multiple infections of the gastro-intestinal tract with liver involvement. Again, the factor of diet is often brought into the discussion. Certainly the mechanical factor of restriction by pressure from corsets cannot hold here, as neither the Chinese nor the Filipina woman knows the meaning of the word. Again, it is interesting to note the age of these cases. Most of them apparently occur in the decade between thirty-five and forty-five years, but two of the cases I saw were in young individuals, one of them being in a girl of ten years whose liver weighed 4500 grams. They do not metastasize as a rule.

Bone sarcoma seems to be very uncommon; indeed, I saw only two specimens, removed at operation, and only one case at autopsy. These were all rather unusual types and are being studied carefully histologically. This low incidence of tumors is not wholly confined to those of bone type. Gastro-intestinal and central nervous system neoplasms are not as regularly seen as here. This may be rather more apparent than actual, as a matter of fact, for the people as a whole are not yet educated to surgery to the extent that they are to medicine, and as this tendency is overcome, more comprehensive statistical evidence may be forthcoming.

In presenting these rather rambling and desultory observations I have been actuated by the hope that I might bring home to some of you the existence of the Philippine Islands. As I said at the outset, very few of us have but the remotest notion of what or where the Philippine Islands are, and of their tremendous economic importance. When a man of the calibre of Governor-General Wood has been willing to endure the difficulties of administration which those islands represent, it seems only fitting that we should make some effort to understand those problems. I think we all hope that ultimately their solution will lead to the economic and political independence of the islands, but before political independence can be secured, economic independence should be assured. And economic independence will only be assured so soon as the problems of sanitation and public health in respect to the great industries of the islands are solved. The Rockefeller Foundation deserves much credit for its work there at the present time. May this great work continue in the spirit of friendliness in which it is offered!

[NOTE:—The photographs in this article were supplied through the courtesy of the Bureau of Science, Manila, P. I.]

GROUP REACTIONS TO THE SHICK TEST

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THE widespread use of the Schick test is contributing new and valuable facts to the epidemiology of diphtheria. Not only have its results afforded a sound explanation for the high morbidity rates among the lower age groups; and, by showing the transmission of a temporary passive immunity from mother to child, given

us the reason for the rarity of the disease in infants; but the application of the test to various age, social, racial, and geographical groups promises to give the answer to such questions as why the disease is endemic in one locality and epidemic in another; and why a community should be spared for years, only to suffer later a severe outbreak. It is not too much to expect that by taking the past diphtheria incidence rate of any given group and considering it along with the results of the Schick test it will be possible to predict what the future history of that group may be.

Since the publication by Park[1] of the analysis of Schick reactions at different ages there have been recorded many observations on the reactivity of various social groups, and it is now evident that the degree of prevalence of the disease and opportunities for exposure to the diseased or to carriers are the main factors concerned in the immunity or susceptibility of any given group.

It is the purpose of this paper not only to present the results of the Schick test in the various groups mentioned, but by presenting them along with the diphtheria statistics for some of the groups to show the value of the test from an epidemiological viewpoint.

The reason for the higher morbidity rates in childhood was first shown by Park.[1] His percentages of positive reactions in the various age groups correspond to the incidence of diphtheria at the various ages in the particular social group tested by him. These figures have been widely copied and have been taken as a standard of comparison in other localities. Zingher,[2] practicing the test in different children's institutions, found a considerable variation, age for age, in the different institutional groups. He[3] later reported a marked variation in the percentage of Schick-positive children in different public schools, and concluded that "children from the homes of the more well-to-do have a much higher percentage of positive Schick reactions than those from the homes of the poorer classes of the population, who live in closely crowded neighborhoods." He put forth the theory that "repeated exposure to the diphtheria bacillus in the congested districts causes not only actual clinical cases of diphtheria to develop but also produces mild infections of the mucous membranes which are not recognized as diphtheria, but which may lead to the gradual development of an antitoxic immunity." This theory was supported by the result of the test in two private schools, the Lawrenceville School with 79 per cent. positive reactors in boys from 12 to 21 years, the George School with 75 per cent., and in a rural school at Shilo, New Jersey, with 85 per cent. positive reactors.

This experience is similar to that reported by Fleischner and Shaw,[4] Neff,[5] and Sears[6] in this country, and by O'Brien[7] and others in England. That the inhabitants of all ages of rural communities may give a much higher percentage of positive reactions to the Schick test than urban inhabitants is strikingly shown by the experience of Kidder.[8]

In the diphtheria prevention campaign carried on during the past five years in Massachusetts an unusual opportunity has presented itself for studying the susceptibility of children of various ages, of nurses, students and others, of many nationalities, of widely different economic strata, and living in communities of varying population density, from the congested districts of larger cities to small towns isolated in sparsely settled parts of the State. The fact that the materials used for all the Schick tests have come largely from one source—the State Antitoxin and Vaccine Laboratory—and that the technique of the test and its interpretation were practically uniform throughout the State increases the reliability of the comparisons drawn from the results obtained.

We can take the figures most recently reported by Park[9] as a basis for comparison.

TABLE I

Age	Schick—(Susceptible)
Under 3 months	15 per cent.
3 to 6 months	30 per cent.
6 months to 1 year	60 per cent.
1 to 2 years	60 per cent.
2 to 3 years	60 per cent.
3 to 5 years	40 per cent.
5 to 10 years	35 per cent.
10 to 20 years	25 per cent.
20 to 40 years	18 per cent.
Over 40 years	12 per cent.

The school children tested by him showed 25 to 35 per cent. of positive reactions (the higher figure for the younger children), and adults 18 per cent. for the group 20 to 40 years, and 12 per cent. for those over 40 years of age. Bearing in mind that these figures represent the reactivity, or susceptibility, of the dwellers in our largest city where diphtheria is endemic, it is reasonable to assume that they indicate the high percentage of immunes that congestion and diphtheria would theoretically produce.

School Children.—Compared to Park's findings, the result of the Schick test performed on school children in different Massachusetts cities is interesting. In the following table only those cities and towns have been included in which the number of observations is sufficient to reduce the error of evaluation. The results in other communities which duplicate those quoted have been omitted.

The simple positive and the combined reactors may be taken together as representing the susceptibles, while the straight negative and the pseudo reactors may be taken as representing the immunes. The number of combined and pseudo reactions undoubtedly does not repre-

sent all the reactions of this type, because in not all instances have controls been done or the readings reported, yet such reports as are available give at least the minimum percentage of individuals thus reacting, and probably indicate the varying degrees of previous exposures to infection. Boston, the largest city in New England, gives the lowest percentage of positive reactors, but the proportion of susceptibles is larger than in New York. Here also the high percentage of pseudo reactions indicates, if our theory is correct, frequent contact, if not mild infection, with diphtheria. Other cities, smaller than Boston, but representing the combination of crowded living conditions and a moderately high endemic index, like Haverhill, Adams, and North Adams, show a slightly higher proportion of susceptibles. Passing from Boston proper to its closely adjacent but less congested cities, Chelsea shows 62.5, Everett 64, Watertown approximately 65 and Arlington 80.5 per cent. of positive reactors, this percentage rising as population density decreases. Farther away, but representative of urban conditions, New Bedford shows 66.8 per cent. positive reactors. Lee had 68.8, while with decreasing density the positive percentage rises in such less urban communities as Danvers and Reading to 80 and 84.5 per cent. In towns situated in the country there is a consistently high level of susceptibility, as shown in Woburn with 82.2 and Amherst with 82.5 per cent. reactors. In isolated communities the proportion of reactors is surprisingly high. In Hancock and Tyringham, for example, the results indicate complete susceptibility of the school population.

There are, of course, exceptions to this general rule, but in each instance a study of other factors reveals a reason for the deviation. Winchendon affords a good illustration. This town, situated in the country, with low population density, would be expected to have a higher susceptibility rate then was found. The majority of the tests, however, were performed during and after a diphtheria epidemic, so that a considerable number of susceptibles, either sick, convalescent, or quarantined, were not tested.

In the early part of the campaign when the first reports were analyzed, it was found that in certain communities the percentage of susceptibles or immunes did not always bear a direct relation to the density of population. On examining the diphtheria incidence of these localities it was found that the diphtheria history of the community apparently influenced its proportion of immunes. The case of Winchendon has already been mentioned. Holyoke, for example, with a dense population, showed practially no immune children under eight years of age. Here an epidemic of diphtheria had occurred seven years previous to the tests, leaving few susceptibles, and therefore the children born since that time had had few contacts with the disease. Holyoke at the time was enjoying a comparative freedom from diphtheria, but with its susceptible child population it afforded a fertile soil for the spread of the disease if it were to enter the city. This theoretical anticipation has been realized during the past two years in which the diphtheria rate in that city has exceeded its median endemic index.

The influence of a community's diphtheria

TABLE II

Children of School Age

City	Pop. U. S. Census 1920	Total Read	% Pos.	% Combined	% P&C	% Neg.	% Pseudo	Per cent. Neg. & Pseudo
Boston*	748,060	28,943	44.1	6.5	50.6	31	18.2	49.3
Lynn	99,148	3,209	67.6		67.6			32.4
New Bedford	121,217	5,259	66.8		66.8	33.2		33.2
Fall River	120,485	149	26.2		26.2	67.1	6.7	73.8
Haverhill	53,884	442	50.2		50.2	49.8		49.8
Chelsea	43,184	1,687	62.5		62.5	37.5		37.5
Everett	40,120	95	64.2		64.2	32.6	3.16	35.8
Watertown	21,457	672	68		68	32		32
Arlington	18,665	394	79.2	1.3	80.5	19.3	.2	19.5
Westfield	18,604	391	39.6	2.81	42.4	55.2	2.78	57.6
Melrose	18,204	157	69.4		69.4	30.6		30.6
Woburn	16,574	286	82.2		82.2	17.8		17.8
Adams	12,967	503	50.9	5.96	56.8	35.4	7.76	43.2
Danvers	11,108	758	80.	1.7	81.7	16.9	1.5	18.3
Reading	7,439	549	82.5	1.8	84.3	14.9	.7	15.6
Ipswich	6,201	215	79.5		79.5	20.5		20.5
Winchendon	5,904	511	63.7		63.7	36.2		36.2
Amherst	5,550	177	82.5		82.5	16.9	.5	17.5
Lee	4,085	256	68.8	10.5	79.3	20.7		20.7
Dalton	3,752	348	60	4.6	64.6	35.4		35.4
Hancock†	464	50	100.		100.			0
Tyringham†	267	29	100.		100.			0

*The figures for Boston were reported by John A. Ceconi, M.D., Director, Division of Communicable Diseases, Boston City Health Department. All other figures were kindly supplied by State District Health Officers, local school and health officials.
†90 per cent. of total school population.

history is well illustrated by Becket (population 674). Here 41 children, constituting 75 per cent. of the total school population, showed 33, or 80 per cent. positive reactors. Becket has had only two cases of diphtheria in the past seven years, and only 21 in the past 16 years. Middleton shows a similar situation. Still more striking are the experiences at Hancock and Tyringham, isolated rural communities having 464 and 267 inhabitants respectively. In both towns 90 per cent. of the school children were tested and every child gave a positive reaction. Hancock has not reported a single case of diphtheria in the past 25 years, and Tyringham has reported only one.

Taking the data at hand for public school children in the various cities reporting, we find that of 45,319 children tested, 25,666, or 56.6 per cent., were positive; that is, slightly more than one-half of the Massachusetts public and parochial school children tested are susceptible to diphtheria.

Private Schools.—The observation first reported by Zingher, that the children of the economically more favored class show a high percentage of reactors, is confirmed by the experience at the May School and Miss Winsor's School for girls in Boston, and the Concord Academy, with 95.6 and 98.1 and 97 per cent. positive reactors respectively. The diphtheria rate for this group is, conversely, a low one, because their rare exposure to infection, while resulting in lack of immunity, at the same time spares them from the disease.

TABLE III

Date	City	Place	Total Read	% Pos.	% Comb.	% P&C	% Neg.	% Pseudo	% N&Ps
Feb., 1923	Boston	Miss Winsor's	113	94.7	.88	95.6	4.4		4.4
Mar., 1923	"	May School	52	98.1		98.1	.9		.9
May, 1923	"	Concord Academy	33	97		97	3.		3.

Adults.—From the reports collected it is evident that the adult population of the State is less completely protected through natural immunity than the adults reported by Park. Of 1782 adults, including college students, teachers, nurses, soldiers, and reformatory inmates, 621, or 34.9 per cent., were found to be susceptible. The lowest percentage of positives were found among the 792 soldier patients and attendants at the U. S. Government Hospital at Parker Hill, comprising a cosmopolitan group with 13.7 per cent. positive reactors, while the highest percentage occurred among the teachers of country schools (73.5 per cent. positive) and Smith College students (77 per cent. positive).

The nurse group (658) contributes to the large number of positive reactors with a percentage of 52.3. Their past exposure to diphtheria is indicated by the higher incidence of pseudo (16.3) and combined (5.18) reactions. This group is made up principally of young women coming originally from country districts, which would explain their relatively higher susceptibility to diphtheria.

An experience with an adult insane group is noteworthy. Of 1462 patients tested, 892, or 61 per cent., reacted positively—57 per cent. of the males and 65 per cent. of the females. This population consisted entirely of adults from all parts of the State, whose average admission age was about 44 years. The low immunity level of the group is difficult to explain because the comparatively high percentage of pseudo and combined reactors would indicate considerable previous exposure to infection, and be accompanied, presumably, with a larger number of immunes.

DISCUSSION

The results following the use of the Schick test in Massachusetts show that slightly more than one-half of the school children tested reacted positively, and that the proportion of susceptibles, both among school children and adults, is greater than that reported by Park and Zingher for New York City. They further show a wide variation in the susceptibility of different social groups, and also that past and present diphtheria incidence rates and the density of population further influence the proportion of diphtheria immunes in any given community. The data analyzed would seem to warrant the general statement that the percentage of positive reactors to the Schick test (susceptibles) in any given group varies inversely with the number of previous contacts with individuals infected with the diphtheria bacillus.

Furthermore, it would seem that in the Schick test we have a valuable epidemiologic aid, because by considering the susceptibility or immunity to diphtheria of any group or community (as shown by the Schick test), in connection with its previous and present diphtheria history, it may be possible to predict and anticipate the future prevalence of this disease in the particular group or community studied.

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New England Surgical Society

VAGINAL OUTLET REPAIR

BY WALTER C. SEELYE, M.D., WORCESTER

THERE is an enormous amount of literature on the subject of repair of lacerations of the perineum and cervix, including the repair of cystocele and rectocele, and the correction of the general prolapse and relaxation of the tissues concerned in this condition. For the sake of convenience I refer to all the operations, other than abdominal, for the cure of this condition, under the general term of vaginal outlet repair. It is not the purpose of this paper to discuss in detail the differences in points of technique that have been elaborated upon for operations of this region. It is, however, my desire to emphasize a few points that may be of some interest in the study of one hundred consecutive cases upon which I have operated during the past ten years, to accomplish the repair of the vaginal outlet.

The average age of these cases was 45 years, the youngest being 22, and the oldest 74. The number of patients in the process of menopause, or past that period, was 48, while catamenia was still regular in 52. The average period that had elapsed since marriage at the time of operation was 22 years. The shortest period was 3½ years, and the longest 50 years. The average number of living children born to these women previous to operation was four. One had 10 children, and another was never pregnant. The average percentage of abortions in these cases previous to operation was one-half of 1 per cent. The interval between the last pregnancy and the time of operation averaged 11 years.

For convenience, the cases have been divided into two classes, first those comprising the uncomplicated cases, and second, the complicated cases. The uncomplicated class contains those of the routine cases, which had no additional pathology to necessitate unusual technique, and which made uneventful recoveries. Of these there were 85 in number. Their average time in the hospital following operation was 15½ days. These all made uneventful recoveries with the immediate results in every way perfectly satisfactory. Among them are included cases which had ventral or uterine suspensions in addition to the usual vaginal outlet repair. Up to 1916, 33 cases were operated upon with special reference to trachelorrhaphy instead of amputation of the cervix, combined, as usual, with the building up of the pelvic floor, anterior and posterior colporrhaphy and perineorrhaphy. Of this number, nine had some form of suspension or fixation of the fundus uteri through an abdominal incision. These had an average age of 46½ years, the youngest being 33, and the oldest 62. It is probable that, in the light of later experience, a laparotomy and suspension in these cases was unnecessary. Since that period every effort has been made to avoid suspensions in connection with these operations of repair. The entire attention was devoted to the detail of the vaginal outlet repair, with equally satisfactory results. Every time a laparotomy can be justly avoided, it is distinctly advantageous to the patient, both in regard to the immediate risk and to the subsequent danger of adhesions and their consequences.

The complicated class includes those cases which had additional pathology, such as a recto-vaginal fistula, requiring extra local technique; and those involving additional operations for associated diseases, such as uterine fibroid and other abdominal abnormalities. Included in this class also are those cases associated with complications of convalescence, such as sepsis and secondary repair. Of this class there were 15 cases. Their average time in the hospital after the primary operation was 24 3-5 days, or an average of nearly 10 days longer than the uncomplicated cases. Of these, the shortest period was 11 days, ending in death, and the longest was 72 days. The one death occurring on the eleventh day was caused by operating on a woman whose case was too poor an operative risk. She was 50 years old, married 30 years, with three children and no abortions, being eight years past the menopause. An autopsy was obtained which showed that she died of endocarditis, myocarditis, and endo-aortitis which was probably of syphilitic origin.

Of these complicated cases one was associated with recto-vaginal fistula, and complete lacerations through the sphincters. In this case the healing completely broke down twice, necessitating a third complete repair. She remained in the hospital 72 days after the first operation. This last operation, however, obtained a perfect result, and examination seven years later showed that the repair had held perfectly with entire relief of her symptoms.

Two other cases had a less extensive breaking down of the wound from sepsis, and required a secondary repair, which proved successful. The post-operative stay in the hospital was 40 days each.

There were two cases of post-operative hemorrhage from the cervical artery. In one the artery was clamped and tied, and the other was packed. Both made good recoveries, and were discharged on the nineteenth and fourteenth days respectively.

One was delayed 10 days beyond the two weeks' period after operation by the extraction of 14 carious teeth.

The remaining eight of these complicated cases were associated with operations for hernia, ovarian cyst, fibroid tumor of the uterus and cervix, and appendicitis. These operations were done under the same anesthetic following the repair of the vaginal outlet. They all made uneventful recoveries, and were all discharged well on an average of 18½ days after the operation.

On all the cases in the process of menopause or past that period, 48 in number, a more radical operation was done than on those prior to menopause. The routine technique proceeded with a high amputation of the cervix, preserving the patency of the cervical canal; anterior colporrhaphy, pushing the bladder back as far as possible, but with no interposition operations; posterior colporrhaphy and perineorrhaphy, with a high building up of the pelvic floor, beginning with the approximation of the levator ani muscles, and continuing two to three layers of deep sutures to the top of the pelvic floor and perineal body. The most important single factor considered in this class of cases, that is, those that have passed the menopause, was the amount of relaxation of the tissues. In proportion to the amount of this relaxation special attention was given to minute detail in technique. A basic principle was established of finishing the perineal repair very high, care being taken to obtain nice aproximation. The suture material used throughout was that of chromic gut No. 2, with the exception of the last outside stitch, which was taken with plain gut No. 00, for the approximation of the edge of the mucous membrane and skin. In some of the earlier cases, involving a complete tear through the sphincter muscles, sutures of silkworm gut were used for a few outside stays, but this material was given up later, as it was found that the buried chromic gut suture gave just as good results and cleaner healing. It has been an interesting fact in the follow-up in these cases that with one exception, the high repair regained enough relaxation to bring about the desired results. In one case, however, it was necessary to perform a slight plastic operation to lower the height of the pelvic floor and perineal skin line.

In all cases before menopause, special attention was given to two points: first, amputation of the cervix low enough not to impair its functions in case of pregnancy; second, care to give more room both in width and depth to the pelvic floor than in those cases beyond the menopause. Otherwise the technique was essentially the same.

Of the one hundred cases, the number that returned for subsequent follow-up examination was 69. Of these, 31 were operated upon prior to the menopause, only one of whom has borne children in the natural way since the operation. This one was an Italian woman operated upon in April, 1914, and was 32 years old at that time. She had had four children and no abortions. Her condition presented an extensive perineal tear with marked cystocele and rectocele. Since her operation she has had three living children, besides one premature birth of twins at seven months, stillborn, and five early abortions. It was interesting to note, in my examination of her in the present month, that there was only moderate relaxation of the pelvic floor, and no cystocele or rectocele. Another case had a child delivered by Cesarean section two years after the repair operation, having previously had two stillbirths from difficult high forceps deliveries, owing to a contracted pelvis. Of the 38 follow-up cases operated upon after the menopause, three had slight trouble from incontinence of urine, but these three were much improved in this respect over their condition previous to the operation. There were two cases that had a slight recurrent rectocele, but this was causing no symptoms. All the rest of the patients showed upon examination very satisfactory results, and were enthusiastic over the relief which they had obtained. Those who were examined eight to ten years after operation had apparently retained their good results, as well as those examined a few months after operation.

In conclusion it seems evident:—

1. That this operation for vaginal outlet repair is one of the most satisfactory operations that we perform, when measured by the amount of relief obtained by the patient.
2. That the results of vaginal outlet repair, both from the patient's point of view in relief from symptoms, and from the point of view of the operator, are all that could be desired without intra-abdominal uterine suspensions or interposition operations.
3. That the time of election for operation is about the menopause or soon after. However, in connection with this point, it must be taken into consideration that the urgency of the case often necessitates operation before that period.
4. That the operative risk must be balanced in the same way as that for any major operation.

DISCUSSION

Dr. Stephen A. Mahoney, Holyoke: In regard to the first paper, that of Dr. Seelye on vaginal outlet repair, I took up a popular textbook to see how many types of operation were advocated in this particular region, and here is

simply a partial list of the various operations advocated and the name of the man advocating the operation: There was Simon, Hegar, Freund, Emmett, Dudley, Bischoff, LeFort, Tait, Edebohls, Simpson, Fritch, Duke, etc. And that is only a partial list of the various operations advocated down in this region. Then also I took up a list of some of the various sutures that are advocated in order to accomplish these operations, and here are some of them: Sauenstein, Hildebrandt, Heppner, Outerbridge, Cleveland, etc. In fact, there are so many and various operations advocated in this region that it is pretty difficult, particularly for a man entering surgery or gynecology to get a clear idea of the region and of an operation that is really good. About all of them differ only in some minor detail from some other operation, some little reflection of a mucous membrane, or some little oddity in denudation. Some of the later textbooks advocate either one or two operations, and I think they are coming down to either one or the other, and that is the old Emmett operation, where the denudation is carried up into each sulcus, or the Hegar operation, where the denudation is carried up in the median line and then out on the vulva.

Now relative to what Dr. Seelye says about the proper time of operating, to my mind there is only one proper time to operate on a ruptured perineum, and that is the time when the child is delivered. If you take and sew up your perineum then, you don't have to do these extensive operations later; and it should be our teaching that any man who takes charge of a case of obstetrics should examine his case after the delivery of the placenta to make sure the patient has no rupture or tears. If she has tears they should be repaired then. This operating at secondary and tertiary times should be eliminated from our gynecology as much as possible. Of course, it will not be possible to do that, simply because cases of obstetrics come into the hands of all classes of men and midwives. So we will have these vaginal repairs in the late stages as long as incompetent men take charge of cases of obstetrics.

Dr. George H. Gray, Lynn: Apropos of the remarks of the last speaker who, among other methods, mentions the LeFort operation—back in the late nineties I had this experience: A doctor friend's mother, about 75 years of age, was practically disabled from a long-standing complete procidentia. Following a little joke of finding my glove fingers stitched up in the middle, it occurred to me that a double vagina wouldn't and couldn't turn wrong side out. I discussed this with the doctor, and it was decided to attempt it. An anterior and posterior denudation of sufficient size was made, and a corkscrew silkworm-gut suture was placed, and I presume is there yet. It never caused trouble, success was complete, and that patient went about without discomfort. Shortly afterwards in looking over Gross' Surgery, I found that this was a LeFort operation.

I went along for a number of years and never found another case willing to submit to this procedure until last spring, when strangely enough another doctor friend's mother-in-law presented herself with the same condition. She wanted to get rid of her discomfort but didn't want to risk a more serious operation. This procedure was decided upon, and similar technique was followed except that chromic catgut suture No. 2 was used. The result has been very satisfactory for the patient.

Book Reviews

History of the Massachusetts Medical Society, 1781-1922. By Walter L. Burrage, M.D. Privately printed, 1923.

This handsome volume of 505 pages and 31 illustrations with full index owes its existence to the long years of painstaking research of Dr. Burrage, secretary of the Society since 1909 and editor of its Proceedings for the *Boston Medical and Surgical Journal*, as well as secretary of the Boston Medical Library since 1911 and co-editor of American Medical Biographies. Although not an official publication, not having been written at the request of the Society, its importance to the Society has so impressed the members of the Council that at their last meeting it was given a hearty endorsement and copies were reserved as authoritative books of reference for the use of present and future officers of the district societies and others. It is a story written from the inside by one who has a wide knowledge of the archives, the traditions and the records of the Society, and in addition an unusual acquaintance with the personal and professional lives of the important members since the foundation of the Society.

The first part of the book tells of several little-known medical societies, of short life, which preceded the Massachusetts Medical Society, and special attention is given to the New Jersey Medical Society, which, although started in 1766, fifteen years before the Massachusetts Medical Society, was compelled to suspend its meetings from 1795 to 1807, thus leaving to the Massachusetts Society the honor of being the oldest state medical society in the United States with continuous existence. An account is given of the efforts of Cotton Tufts and others to start a society about 1765, but not until 1781 was a lasting organization founded. Dr. Burrage gives a photostatic copy of the original bill to incorporate the Society, presented to the Legis-

lature in June, 1781, but not enacted until November 1, 1781, when it was signed by John Hancock, a few days after the battle of Yorktown.

A copy of the quaint and attractive miniature of N. W. Appleton, the first secretary, on whose faithfulness much of the success of the early meetings depended, serves as the frontispiece of the book, and a facsimile of his letter of resignation, with its neat handwriting, is given farther on. Of Dr. Holyoke, the centenarian and first president, there is a copy of his well-known silhouette; one less familiar is that of Dr. J. D. Treadwell, which will bring a smile to readers of the book. Cotton Tufts was an active and useful member in the early days, and from his descendants have come many documents telling of medical life at that time. His picture on page 64, with an apparently wooden face and hand, undoubtedly does not do him justice.

Especially in early years, and even in recent times, the members of the Society and Council have met in many different places, and Dr. Burrage has been able to get for his History pictures of nearly every home of the Society from 1781 to 1922. This part of his story has evidently interested him, and he has taken great pains to make clear the movements of the Society until it finally came to rest under the friendly wing of the Boston Medical Library.

After the account of the founding of the Society and its reorganization in 1803 comes the narrative of the important period, treated more or less by decades, up to 1881, when the Centennial Anniversary was celebrated by fitting exercises and addresses. Then follows the story up to 1900 and the removal to the Fenway headquarters. The relations between the Society and the American Medical Association, often far from cordial, are discussed in full and make interesting reading. Another topic which brought out many differences of opinion was the question of the status of so-called irregular practitioners, which led to the expulsion of a number of homoeopaths, and of this there is a very complete account. The advisability of admitting women to the Society was argued at intervals extending over a period of years, with earnest advocates of the measure and, at first, a greater number of equally earnest opponents. The outcome now seems so inevitable, that the present generation will read the chapter as if it related to the dark ages. The chapter on the Library tells of the frequent change of headquarters, of almost no use of the books by members, and finally of their deposit in the Boston Public Library, where they remained until transferred to the Medical Library in 1905. The origin and subsequent history of the various district societies will be read with pleasure, especially by the members of these societies, and will prove of the greatest importance to future district officials.

At the end of each chapter Dr. Burrage has placed short biographies of some of the members of the Society most active at the time. These, in connection with the photographs, give a lifelike character to the narrative and serve to show the kind of men who helped carry on the work of the Society for 141 years, since 1781. The whole book is accurately and interestingly written by the master hand of Dr. Burrage and will be a document of great permanent value to the Society.

Blood Chemistry Colorimetric Methods. By W. J. Stone. Paul B. Hoeber, N. Y., 1923. 75 pages, $2.25.

Paper and binding waterproof. Dr. George Dock commends this guide to "those discouraged by the mass of detail given in more exhaustive textbooks." The technical essentials seem to be concisely and clearly stated. In addition, the "clinical comments" seem interesting and sound. This little book then may be a convenience to the general practitioner for whom it is planned. Its principle, however, cannot be said to appeal to the reviewer, who believes that incorrect chemistry is worse than none, that chemical analysis correct enough for even clinical purposes requires respect for a mass of detail, and that only a very small part of such analysis is now or ever will be performed by physicians. It is to be feared that Dr. Stone's clinical comments will not reach so large an audience as they merit and as if they were published separately as part of a manual of clinical medicine.

Traité d'Ophthalmologie. By A. Poulard. Masson et Cie., Publishers, Paris.

A text-book of ophthalmology, in two volumes, containing in all 1458 pages, with 710 illustrations. It is an extremely well written book of great value, both to the student and clinician. The various diseases are taken up in a systematic manner. A lesion is described, and then the diagnosis, prognosis, etiology, pathological anatomy, and treatment, etc., are taken up under separate headings. The work is of an essentially practical nature, giving small details of treatment and technique which, while taken more or less for granted by the older clinicians, are of extreme importance to younger clinicians and students. The descriptions of the pathologic anatomy are most valuable in that they correlate the clinical findings with the pathology in a short, concise manner, which gives the reader about all the practical knowledge required, without confusing him with superfluous details. The descriptions of operations are well written and easily understood. The illustrations, for the most part, are excellent.

Case Records
of the
Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY
RICHARD C. CABOT, M.D., AND HUGH CABOT, M.D.
F. M. PAINTER, ASSISTANT EDITOR

CASE 9511

A Scotch housewife of sixty-two came to the Emergency Ward July 22.

At a previous entry, twelve years earlier, varicose veins in both legs were excised.

Records of the Out-Patient Department show from eighteen years to four years before the final admission thirteen visits for relief of varicose veins and ulcers, sugar in the urine, and unstable emotions.

Second entry, July 14, four years before the final admission.

F. H. Unimportant.

P. H. Not recorded except that her first six pregnancies ended in miscarriages, the first at three months, each getting nearer to term, until the seventh came to full term. The child died at two months. Three later children were living and well.

P. I. She had had varicose veins twenty years. Itching ulcers healed and opened repeatedly.

P. E. *Heart* sounds of fair quality. A_2 markedly accentuated. A rough blowing systolic murmur at the aortic area transmitted to the neck. Artery walls palpable. Brachials tortuous. *B.P.* 198/120. *Extremities.* Marked varicosities. Linear scars in both thighs. Scars of old ulcers on shins.

Chart not remarkable. No sugar was found in the *urine* at nine examinations.

The carbohydrates in the diet were raised to 150 grams without the urine showing sugar. July 23 the patient was discharged relieved.

History of interval. Her general health had been fairly good up to July 4, four years after the last discharge, when she was forced to go to bed because of varicose ulcers of the legs. She had been on a diet for diabetes.

Third entry. P. I. She dated the onset of her present illness at half past nine in the evening July 21, about twenty hours before admission. At that time while in bed she was seized with rather violent pains in both lower quadrants of the abdomen, soon followed by nausea and vomiting. She heard her doctor say that the vomitus was bile, but just before admission she observed that it was dark red. Her bowels moved several times, although she did not notice the nature of the stools. Her doctor gave her morphia. Even this failed to relieve the intensity of the pain, which was sharp and aching. She had been somewhat short of breath since the onset. There had been no unusual urinary symptoms. She had never had a similar attack.

P. E. A rather obese, dyspneic woman apparently in considerable pain, answering questions intelligently, although she seemed to have had a good deal of morphia. At frequent intervals she vomited old blood, proved by guaiac. *Heart* and *lungs* not remarkable. *Abdomen.* Excruciating tenderness in both lower quadrants, with a fair degree of muscle spasm in this vicinity. Upper abdomen soft and not tender. Percussion not remarkable. *Pelvic* and *rectal examinations* showed marked tenderness in both lower quadrants. Uterus not abnormal. *Pupils* contracted. Reactions to light very sluggish. *Reflexes* normal.

T. 102.2°. *P.* 127-120. *R.* 60-40. *Urine* and *blood* not recorded.

A surgical consultant advised against operation. The patient was given thirty units of insulin in divided doses. She did not respond to subpectorals or stimulation, and died at midnight the day of admission.

DISCUSSION

BY DR. RICHARD C. CABOT

NOTES ON THE HISTORY

1. It is not quite clear from the record whether the varicose veins which have plagued this patient for so many years were present after the operation done for their relief,—in other words, whether clots forming in them might still be regarded as a danger at the present time.
2. The history of six successive miscarriages and a seventh pregnancy after which the child lived but two months raises a considerable suspicion of syphilis.
3. The present illness is very incomplete in that it gives us no idea for what complaint the patient entered the hospital. Presumably it was not for the varicose veins nor for the resulting ulcers. Possibly it was on account of the glycosuria, though that is not stated.

NOTES ON THE PHYSICAL EXAMINATION

In the physical examination the most important fact is the high blood pressure and the suggestions of general arteriosclerosis. The patient stayed but one day at this time, presumably because she was found to have no sugar in the urine. It is notable that no cardiac enlargement and no evidence of nephritis are recorded at this time despite the presence of marked hypertension.

Four years later the patient is apparently still troubled by the varicose ulcers and by diabetes, so that the previous disappearance of the sugar in the urine was probably a temporary accident.

At the third and last admission to the hospital we are dealing with an emergency, and apparently with an abdominal emergency characterized by low-placed pain with vomiting, the vomitus possibly containing blood. Contrary to the rule in such cases the bowels are not locked up. The pain is apparently of great severity, since morphia does not relieve it.

At the final physical examination obesity, dyspnea, hematemesis, and great tenderness low down in the abdomen are the most important points. The condition of the pupils is very probably explained by morphia.

DIFFERENTIAL DIAGNOSIS

The presence of varicose ulcers, therefore presumably of varicose veins, though they are not specifically mentioned, makes it possible that mesenteric thrombosis or other intra-abdominal thrombosis is the cause of her violent pain and tenderness. Though the urine is not recorded there is reason to believe that she is still diabetic, and one must inquire therefore whether this attack might be due wholly to diabetic acidosis, which would, of course, explain the dyspnea. So far as I know, however, such intense and low-placed pain with tenderness is not a feature of diabetic acidosis.

Aside from these two possibilities, which are the only ones definitely suggested by the history, we have to consider the usual causes of acute perforative peritonitis in an elderly woman. Appendicitis or diverticulitis should perhaps be first considered, since they usually produce pain situated low down. Gall-bladder disease, pancreatitis, and peptic ulcer would ordinarily produce earlier attacks and pain placed higher up in the abdomen. Ulcerative enteritis with perforation might produce such pain, but is not suggested by anything in the previous history. The vomiting of blood might well suggest a carcinoma either in the intestines or the stomach, though it would be unusual to have such with no previous symptoms to suggest it. Disease of the pelvic organs is in all probability excluded by the negative pelvic examination.

It is much easier in this case to rule out than to identify positively any disease. On the whole some thrombosis connected with the varicose veins seems as possible as anything, though it does not seem to me probable.

There is also arteriosclerosis in all probability after so many years of hypertension, and there is almost certainly hypertrophy and dilatation of the heart.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Mesenteric thrombosis.
Pulmonary congestion.
Diabetes mellitus.

DR. RICHARD C. CABOT'S DIAGNOSIS

Diabetes.
Mesenteric thrombosis?
Arteriosclerosis.
Cardiac hypertrophy and dilatation.

ANATOMICAL DIAGNOSIS

1. *Primary fatal lesion*

(Diabetes mellitus.)

2. *Secondary or terminal lesions*

Arteriosclerosis.
Slight hypertrophy and dilatation of the heart.
Purpura hemorrhagica.

3. *Historical landmarks*

Chronic pleuritis, left.
Obsolete tuberculosis of a bronchial gland.
Slightly defective closure of the foramen ovale.
Cholelithiasis.

DR. RICHARDSON: The head outwardly was negative. Further examination was restricted.

The subcutaneous fat was very large in amount.

The peritoneal cavity contained about 500 c.c. of thin bloody fluid.

The esophagus showed a rough network of injected vessels in the mucosa, and on its surface in places this was coated with dark reddish crusty blood. The tube otherwise was negative. The stomach contained a small amount of thin bloody fluid. There was much injection of the mucosal vessels. There was no marked reddening of the mucosa. The pylorus was negative. The mucosa of the duodenum showed slight reddening and some injection of the vessels. The first part of the jejunum showed a similar condition. From this point on, however, and extending well down into the ileum the intestine showed a dark plum red serosa bathed with thin bloody fluid. The intestine in this region con-

tained much thin bloody fluid, and there was marked engorgement of the vessels. The mucosa was velvety, dark plum red, and yielded thin bloody fluid. The condition faded out rather rapidly in the region of the lower end of the ileum. The mucosa of the first portion of the large intestine showed some pinkish discoloration, but beyond this was pale. The intestines otherwise were negative.

The mesenteric arteries and their branches and the portal vein and its radicles were negative.

There were a few old pleural adhesions on the left.

The trachea and bronchi contained a moderate amount of bloody mucus. One slightly enlarged bronchial gland showed much fibrocalcareous degeneration.

Here and there in the substance of the left lung and just beneath the pleura of the lower lobe there were several smaller and larger hemorrhagic areas.

The heart weighed 353 grams, slightly enlarged. The valves and cavities were negative. The coronaries were free but showed a slight to moderate amount of arteriosclerosis.

The ascending thoracic portion of the aorta and the arch showed a slight amount of fibrous sclerosis and several small areas of calcareous change. The abdominal portion however showed considerable diffuse fibrous sclerosis with scattered areas of calcareous change. The iliacs showed a moderate amount of diffuse fibrous sclerosis with a few areas of calcareous change. The other great branches showed a moderate amount of fibrous sclerosis except in the splenic artery, where there was considerable fibrous and fibrocalcareous sclerosis with some sclerosis of the branches extending into the pancreas.

The liver weighed 1753 grams. The tissue was pale brownish yellow and punky to soft in consistence,—fatty metamorphosis of the liver.

The gall-bladder contained one stone 2 cm. x 1½ cm. x 1 cm. It crushed under considerable pressure, showing as brownish crystalline material. The mucosa was negative.

The pancreas was of good size and the tissue perhaps a little firmer than usual. No definite lesions were made out, and there was no degeneration of the islands.

The spleen weighed 160 grams. The tissue was rather pale and soft.

The kidneys except for a little focal atrophy were negative.

The unusual condition in the case was the purpura hemorrhagica of the intestine.

It is said that in Henoch's purpura, in which there is purpura of the intestine, abdominal pain occurs.

NOTE BY DR. CABOT

I do not see that we have accounted satisfactorily for the abdominal pain even after post-mortem examination. It is difficult to understand why the esophagus, stomach, and ileum should contain so much blood when the serous membranes generally and the skin showed nothing. This is not at all characteristic of purpura hemorrhagica so far as I know, and in any case has little recognizable relation to the abdominal pain which this patient suffered. The case seems to me to remain a mystery.

CASE 9512

An Italian schoolgirl of thirteen entered September 12. The complaints were high fever, restlessness and poor appetite. The history was given by her father.

F. H. Unimportant.

Habits. Meals and sleep at regular hours.

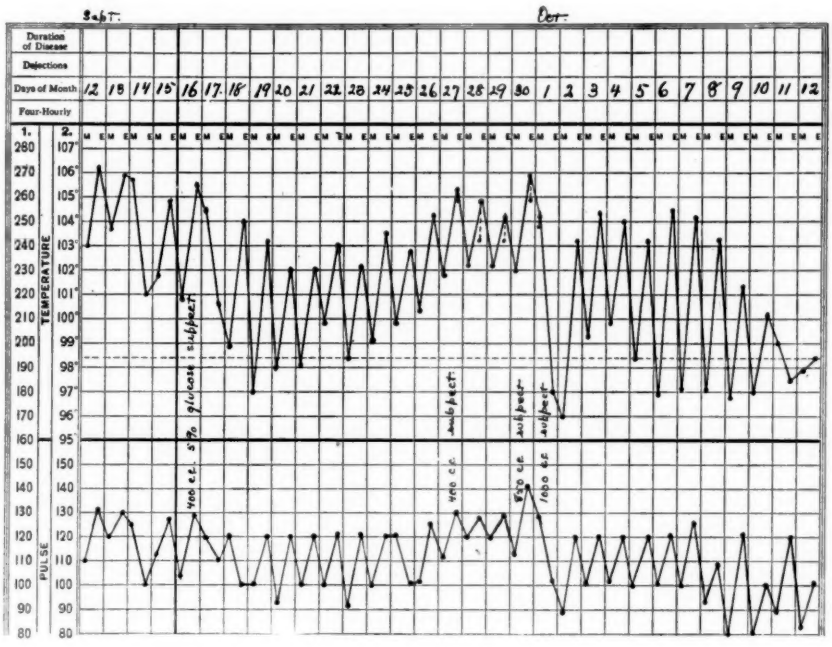
P. H. Her general health had always been excellent. She had had no acute illnesses. In early childhood she had measles and pertussis. Her appetite had never been very good. She had not yet menstruated.

P. I. Two and a half weeks before admission she had sudden onset of headache, fever, restlessness and poor appetite. She remained up and about for the first day, lying down occasionally because of the severity of the headache. For the next three days she had considerable malaise and was in bed at intervals during the greater part of the day. On the fourth day she stayed in bed, and had remained there ever since. Toward the end of the first week the headache gradually disappeared. The fever remained persistently high, 103°-104°, from the fifth day. She had had considerable delirium, especially at night, and some pain in the back of the neck about a week before admission. For the past few days she had been complaining of inconstant pain in the left side. Since the onset she had been willing to take very little food or fluid. Her bowels had been regular. Her father thought she had lost considerable weight.

P. E. A rather undersized pale girl, breathing rapidly, moaning at times, obviously delirious. Throat and mouth dry. Sordes. *Heart* negative except for rapid action. *Lungs.* Loud musical râles throughout both backs below the middle of the scapulae. *Abdomen* negative except for spots of erythema. *Genitals, extremities, pupils* and *reflexes* normal.

T. and *P.* as shown in the *chart.* After October 12 *T.* normal, *P.* 80-120. *R.* 21-51 for the first two days, 28-43 until October 8, 21-36 until October 12, afterwards normal. *Urine.* ℥ 24-65. Sp. gr. 1.003-1.022. Alkaline at six of

sixteen examinations, neutral at two, the very slightest possible trace of albumin at the first, a few to occasional leucocytes at fourteen, red blood cells at two. *Blood.* Hgb. 65%-80%, leucocytes 6,100-3,800-13,200, polynuclears 63%, reds 2,930,000-3,784,000, not abnormal, platelets



somewhat diminished. *Wassermann* negative. *Blood culture* negative. *Stools.* Guaiac negative at ten examinations. *X-ray* September 14. Plates of the chest showed no definite abnormalities. Considerable motion in plates.

Orders. September 11. Individual precautions. Force fluids. Nourishing liquids, chiefly milk or cream. Ice bag to head. Alcohol sponge every three hours p.r.n. for temperature above 102.5°. Soap-suds enema. Morphia gr. 1/8 s.c. Five per cent. glucose taps ℥ iv every three hours in day. September 13. Morphia gr. 1/8, repeat once if necessary for restlessness. No milk. Give cream and water mixture. Rectal tube for distention. Soap-suds enema, repeat once if necessary. Hexamethylenamin and acid sodium phosphate each one five-grain tablet t.i.d. September 14. Turpentine stupes p.r.n. September 18. Morphia gr. 1/8. September 30. Whiskey ℥ i every two hours with cracked ice p.r.n. to help her appetite and give her some calories. October 4 nux vomica and gentian compound* one teaspoonful t.i.d.

The patient improved with the forcing of fluids. She was incontinent of urine and feces. The night of September 13 there was some dis-

*Tincture of nux vomica ℥ ii, tincture of gentian compound ℥ i, water to make ℥ iv.

tention. The following day she vomited all food and fluids taken by mouth. Subpectorals were given September 12 and 16. The pulse was poor in quality. September 16 it was impossible to get in fluids by mouth. She had a frequent irritative cough, occasionally raising a little sputum. By the 20th she was gaining strength. She was still slightly drowsy and nauseated at night, but clear in the day. She did not drink satisfactorily, but could eat a few soft solids. The chest seemed clear of râles. The fluid intake continued to be alarmingly low. September 27 she was given 400 c.c. of saline subpectorally. September 27 to 30 she was delirious almost all the time. All efforts of special nurses to get sufficient fluids in—using the nasal tube, etc.—were unsuccessful, and she vomited almost everything. September 30 850 c.c. glucose subpectoral was given.

October 1 1000 c.c. of intravenous saline was given. She was quiet after this for half an hour. Then she had a chill with rapid thready pulse, followed by one or more not so severe. After this she was fairly comfortable. The temperature went down to subnormal (see chart). The pulse and respirations were slow, but good in quality. The abdomen was soft. The patient was comfortable and rational the rest of the day and the next day. She took fluids by mouth quite well. October 3 she was restless. Her general condition after this, however, continued good. Her appetite improved. She took food and fluids fairly well, made an uneventful convalescence, and November 5 was discharged relieved to a convalescent home.

Discussion

BY DR. RICHARD C. CABOT

NOTES ON THE HISTORY

1. Of course in this hospital we do not intentionally take exanthemata. A group of infections is ruled out, as we settle down to discussion by that fact. When girls of thirteen come here with a fever they often have rheumatism, they sometimes, by mistake, have tuberculosis, they have various types of sepsis, they have blood diseases with fever, they sometimes have brain tumors with fever, and once in a while they have typhoid fever.

2. There is nothing important in the history until we come to two and a half weeks before admission. Then we see the evidences of an acute general infection.

3. She had been about fourteen days in bed. When we used to have more typhoid we used to find the first day in bed as good a time as any from which to date the beginning of the illness, rather better than the beginning of symptoms; depending somewhat of course on how much the patient hates bed. I think that is as good a criterion as any.

4. I suppose this "pain in the left side" means the left side of the chest. That is a thing we should look out for in records. We often do not say in our records whether we mean the left side of the chest, of the abdomen, of the back, and if there is no one about who can tell what was meant we are left in considerable doubt.

Dr. J. H. Means: I should think this was the abdomen.

Dr. Cabot: This is a typical typhoid history. It would also do perfectly well of course for various other diseases, but the prominence of headache and the lack of any other distinctive localizing symptoms, the delirium without rigidity of the neck, certainly would make us think of typhoid first, of the various types of meningitis perhaps second, of sepsis third. Under the various types of meningitis we should include tuberculous meningitis with miliary tuberculosis, which is the only type of tuberculosis likely to come on in this way.

NOTES ON THE PHYSICAL EXAMINATION

I am glad to notice in recent records that we no longer say "rose spots." It is a great improvement. If we said "rose spots" it always meant typhoid fever. Now we say "spots of erythema" and nobody is committed.

Dr. Means: It is less descriptive, though. By "rose spots" we mean a round spot of a certain size.

Dr. Cabot: Yes. I think it would be better to go on and give a little more, give the size.

There are some important negatives here about pupils and reflexes in relation to meningitis.

We have a chart which does not look quite like typhoid, but is not at all impossible for typhoid. It looks more like a typhoid relapse than like a typhoid original attack. That is, these long swings of fever are commoner, I think, in the relapse than in the original attack. But the swings are too long to be typical of the thing I have had in mind, especially the swings at the beginning and end of the chart, not so much in the middle. There is a period at the beginning when it does not swing quite so much. Of course giving the highest and lowest in this way we get a little more impression of swing than we should if we had the four-hourly temperature. The pulse is a little higher than one sees it in the original attack of typhoid often, and most of the time I should say varies more between morning and evening.

Was this x-ray taken in the ward?

An Interne: It was taken at entrance in the Emergency Ward.

Dr. Cabot: On the very first day then. Is that a thing we are doing a good deal now?

Interne: Yes.

Dr. Cabot: My guess is that they made a diagnosis of typhoid in the beginning, in the absence of anything else, and until any further evidence turns up.

Hexamethylenamin on September 14 is a little more like typhoid, and turpentine stupes. My guess is that that is the diagnosis they made.

Intravenous infusions often knock down temperature and pulse. I guess that is the only significance of the tremendous fall between September 27 and 30. Or it may be that the saline was given because of that fall. Does anyone know about that?

Dr. Means: No, it was not.

Dr. Cabot: The drop followed the saline then, and did not precede it.

She was discharged with the diagnosis of typhoid fever, so I think.

Discussion

I do not see anything in this record to make us make any other diagnosis. The other things we think of in such a case would be in all probability fatal. I take it this case was reported because of the apparently successful therapeutics in relation particularly to the fluid intake, which was not going well at all until they began putting it in in this way.

Dr. Means: That was the point. It was to my mind a very interesting case, the chief thing being the struggle to get fluid in. Until October 1, as you have outlined it, it was very difficult or impossible to get her to take the proper amount of fluid. Up to the first of October she had been getting steadily worse, the fever was increasing, her condition getting progressively

poorer, she had been getting more delirious and toxic, and Dr. Sprague asked whether it was legitimate to give saline intravenously, thinking that was about the only channel left. I thought that was proper, and it was tried; and except for this rather startling reaction it marked the turning-point of the disease. Up to this she had been getting steadily worse. After it she got steadily better. Although intravenous infusion of saline was perhaps an extraordinary thing to do in typhoid fever, and I should not recommend it generally, in this particular case it seemed to do good. We felt that she was getting dehydrated. We thought that possibly a vicious circle had been broken by this procedure; it apparently relieved her toxemia, she became rational, it was possible after that point to get fluid in by mouth, and everything went along very serenely. The case was perhaps a little unusual in that the difficulty from the outset was in getting in fluid and nourishment. There were no distressing abdominal complications. She did not have much distention. It was this matter of feeding and giving fluid that was the difficulty.

INTERNE: She would vomit after nasal feedings, she could not retain rectal feedings, and she got so sore after subpectorals that we could not give fluid in any other way except intravenously.

DR. CABOT: Dr. Young, have you any experience of intra-abdominal fluid?

DR. YOUNG: No, I have not.

DR. CABOT: The abdomen does absorb very fast, doesn't it.

DR. YOUNG: Yes, it does. But would you dare to give it intra-abdominally in enteric fever?

DR. CABOT: I think I should feel shy. I should like to know more about that from the surgical point of view. If the surgeons would tell us how to get in safely, I should like that way of giving fluid better than going into the blood.

DR. MEANS: In this case we had used up most of the sites and the vein was about the only thing left.

INTERNE: I think the Children's Service use intraperitoneal fluid.

DR. MEANS: I think it is proper to say that there are often very extraordinary reactions following saline. What they are due to I don't know. They may be due to the saline itself, to the rubber tubing used, to various things. I think one should be very careful to have tubing that has been boiled a number of times, not new tubing, and that the saline should be perfectly fresh. I do not know what happens; but there is some work in the literature in which it was shown experimentally that fresh saline was harmless, whereas the same that had been aged awhile was apparently toxic.

DR. CABOT: We generally use an aged solution, don't we?

DR. MEANS: Yes, and keeping it at body temperature for a long time is not a very good idea.

DR. CABOT: In my recollection the need for which this very effective therapy was given is rather unusual. Most of the typhoids that I remember and most of the other febrile patients have been able to take fluid. Isn't that so in your experience?

DR. MEANS: Yes, it is. I think this is unusual, but I think I have seen it before.

DR. YOUNG: Isn't 1000 c.c. handing the pumping system of an undersized girl of thirteen a bit of a job?

DR. MEANS: Yes, I think the amount was too large.

INTERNE: As a matter of fact the clinical picture was rather more severe than the chart shows. The saline was given in half an hour. Half an hour later they called me to the ward. Her pulse at that time was practically imperceptible. The rate at the apex was 180. There was a tic-tac heart, and she was cyanotic.

DR. CABOT: That is in accordance with what Dr. Young suggests. The heart had quite a job there for a while with 1000 c.c. extra fluid in the vessels. It would be safer if you could let it in slowly enough—I suppose you do not like to do that sort of thing so very slowly when you are in a vein—take two or three hours.

DR. MEANS: I do not know whether we could do it as slowly as that. I think we could do it pretty slowly.

DR. CABOT: Is the peritoneum used much surgically when you want to get in fluid?

DR. YOUNG: No. I do not think we have much experience on what the procedure of going into the peritoneum is, whether it is for fluid or pneumoperitoneum.

DR. CABOT: That is what brought it to my mind. The x-ray people seem to be going in a lot.

DR. YOUNG: Of course you can't ordinarily put a needle into the intestine by direct abdominal puncture.

DR. MERRILL: Perforation of the intestines by the needle in pneumoperitoneum is practically unknown except in a case of adhesions of the intestines to the abdominal wall such as we find in tuberculous peritonitis.

DR. CABOT: It is quite a job to make a hole in the intestine, isn't it?

DR. YOUNG: Yes, if you do not have counter-pressure either from adhesions or some other abnormality. On the other hand, I have seen a needle put in and gas come out. It is an embarrassing situation.

DR. CABOT: Still we used to do that on purpose. I have seen it done under Dr. Shattuck with no harm. I think the peritoneum will stand an extraordinary amount of dirty handling, when I think of all the dirty taps I have seen.

DR. MEANS: Can you get an appreciable amount of air out that way?

DR. CABOT: No, I do not think so.

Luckily we have no necropsy in this case, so the conclusions are simply those of successful therapy.

INTERNE: The patient went to a convalescent home. I called them up this morning (November 20). She is doing well and expecting to go home very soon.

CASE 9513

An Italian housewife of thirty came to the Emergency Ward September 30.

F.H. and P. H. Not obtained.

P. I. For two years she had suffered from "indigestion"—gas after meals, sour eructations, and discomfort in the epigastrium. She had never had any acute pain or definite attacks of any nature until the past week, when she had had gradually increasing epigastric discomfort accompanied by attacks of acute pain in the right upper quadrant with radiation to the epigastrium. Her bowels had been slightly constipated. Two days ago she began to vomit everything eaten, and the pain became much more marked. September 29 she began to vomit watery bile, complained of unbearable pain in the upper abdomen, and was forced to go to bed. Morphia gave no relief. She had profuse sweats and chills. The morning of admission the pain had decreased in severity so that she was able to sleep for two hours. Two hours before admission the acute pain returned, with chills and fever.

P. E. A very sick looking, obese woman with flushed face, apparently in great pain. Skin and mucous membranes pale and cyanotic. Skin moist. Teeth decayed. Pyorrhea present. Tongue dry. Breathing shallow and rapid; otherwise *lungs* not recorded. *Heart.* No abnormalities recorded. *Abdomen.* Distended, full. Tenderness, more on the right, but extending across the epigastrium. Very acute spasm. Questionable mass running across the epigastrium. Liver not definitely made out.
Genitals, extremities and *reflexes* normal. *Pupils* contracted, otherwise normal.

Before operation *T.* 99.2°, *P.* 138, *R.* 29, *urine* and *blood* not recorded.

The patient grew steadily worse, and had continuous vomiting. The leucocyte count rose to 27,000.

Operation was done the afternoon of admission. The patient was in shock immediately after it, but soon recovered and had a pulse of fair quality. The following day the temperature was 99°-102°, the pulse 127-140, the respirations 23-37. There was considerable drainage. The upper abdomen was distended and hard. October 3 she was worse. Her pulse was poorer and she continued to fail. October 4 there were râles in the bases, but no dullness. The morning of October 5 she quietly died.

DISCUSSION

BY DR. HUGH CABOT

The present illness divides itself into the history of indigestion going back for two years, plus the acute attack of the past week terminating in her arrival at the hospital. The story of her indigestion is so vague that it might or might not be evidence of a lesion of the stomach or duodenum. Certainly such an amount of discomfort often occurs without any demonstrable lesion. The absence of characteristic periodic attacks is somewhat against the diagnosis of a lesion of the gall-bladder, but would not be sufficient to exclude it. The acute attack or exacerbation of her previous condition makes it fairly clear that we are dealing with a lesion of the right upper quadrant, and we need consider chiefly the stomach, duodenum, gall-bladder and pancreas.

The description of the attack is not typical of an acute perforation of an ulcer, as it lacks something of the sudden prostrating effect commonly seen with perforation. On the other hand a somewhat slower perforation might easily produce this picture.

An acute cholecystitis of the type going on to so-called empyema of the gall-bladder with or without perforation might produce this picture.

At the time of admission the woman presents the symptom complex often described as an acute abdomen with a strong suggestion that the lesion is above the umbilicus. I do not think it is possible to distinguish between an acute lesion of the gall-bladder with probable perforation and the perforation of a gastric or duodenal ulcer. Influenced however by the rather vague history I incline to a diagnosis of perforation of an ulcer, and on the doctrine of chances such an ulcer is more likely to be of the duodenum than of the stomach. Undoubtedly one ought also to consider acute pancreatitis, though I am inclined to exclude it largely on the doctrine of chances.

The indication for operation is sufficiently clear, but in her present condition a very guarded prognosis should be given.

DR. HUGH CABOT'S DIAGNOSIS

Subacute perforation of duodenal ulcer.

PRE-OPERATIVE DIAGNOSIS

Acute pancreatitis.

OPERATION

Ether. Six inch right rectus muscle splitting incision. The abdomen was opened with the escape of light-brownish non-odorous fluid. The omentum covered with fat necrosis immediately presented in the wound. The stomach was drawn down to break through the gastro-hepatic omentum. This shocked the patient considerably. The lesser peritoneal cavity was opened with the escape of much bloody fluid, which was sopped out. The pancreas was much swollen, two and a half inches wide, and felt rubbery. Two areas near the center of the body were so soft that they were easily broken into with the finger. Cigarette drains were placed in these rents. The gall-bladder was found filled with stones varying from the size of the top of the finger to that of a rice kernel. These were removed as quickly as possible. It was thought that no stones were in the common duct, although it was not probed. A rubber tube was placed in the gall-bladder held by a catgut purse string. The bladder was loosely caught to the peritoneum with a single stitch of the same. A cigarette drain to the foramen of Winslow. Time of operation, thirty-six minutes.

FURTHER DISCUSSION

The doctrine of chances led me to a wrong conclusion. The description of the operation shows the findings to be quite typical of acute pancreatitis, and the prognosis is consequently bad.

The history of the case subsequent to operation is about what one would expect. Evidently the operation as done did not produce an increase in the amount of shock, but death occurred from the continuation of the process.

Necropsy should show extensive fat necrosis due to the acute lesion of the pancreas. There will unquestionably be some peritonitis, but purely secondary and probably not the cause of death. The râles referred to at the bases of the lungs probably simply mean hypostatic congestion of a failing heart.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Possibly acute cholecystitis and acute pancreatitis.
Operation, drainage for acute pancreatitis.
Transfusion.

DR. HUGH CABOT'S DIAGNOSIS

Acute pancreatitis with extensive fat necrosis.
Peritonitis?
Hypostatic congestion of lungs.

ANATOMICAL DIAGNOSIS

1. *Primary fatal lesions*

Cholelithiasis with stones in the common duct.
Cholecystitis.
Pericholecystitis.
Hemorrhagic pancreatitis with fat necrosis.

2. *Secondary or terminal lesions*

Soft hyperplastic spleen.

3. *Historical landmarks*

Operation wound.

DR. RICHARDSON: The skin generally was rather sallow, and the subcutaneous fat in large amount.

Each breast on section yielded a large amount of milky fluid, but was otherwise negative.

The peritoneal cavity was free from fluid. The peritoneum generally in the upper half of the cavity and over the great omentum, along the region of the pancreas, was dotted over with numerous areas of frank fat necrosis.

The appendix was negative. The gastro-intestinal tract and the mesenteric and retroperitoneal glands were frankly negative.

The cardio-respiratory system was negative.

The liver was moderately enlarged, but the tissue showed no lesions.

The gall-bladder contained three small stones about one cm. in diameter and slightly faceted. In the fundus of the gall-bladder there was a surgical opening. The wall of the gall-bladder showed some thickening and the mucosa was reddened and a little granular. There were a few old adhesions on the peritoneal surface of the bladder.

The cystic duct was a little more tortuous than usual, but otherwise negative. The hepatic and common ducts were negative except that in the region of the lower end of the common duct just above the ampulla of Vater there were two minute stones two mm. in diameter which were slightly stuck in the mucosa. The mucosa of the ducts was negative. The duct of Wirsung was moderately dilated, one cm. in circumference at its distal portion, and the mucosa there showed dirty reddish discoloration and was a little granular. The duct of Santorini was not definitely made out. In the situation of the pancreas there was a large mass 16 cm. long by 7 cm. by 5 cm. In the region of the head and first portion of the body the organ showed fairly good pancreatic tissue with here and there minute to small areas of fat necrosis. Tissue of this sort, streaked with areas of hemorrhagic necrosis and disintegration, passed over in the region of the body and tail of the organ

into a dark greenish to blackish-red necrotic disintegrated mass of material. This necrosis extended into the region of the root of the mesentery, which was considerably thickened and also extended along the portal vein and proximal portions of its great radicles. These however were free and otherwise negative.

The spleen was moderately enlarged and mushy.

Anatomically the case is one of hemorrhagic pancreatitis with fat necrosis, associated with cholelithiasis, cholecystitis and pericholecystitis.

FURTHER DISCUSSION BY DR. CABOT

The finding at autopsy of these small stones in the lower end of the common duct together with the moderate dilatation of the duct of Wirsung strongly suggest that in this case at least there was a definite connection between her cholelithiasis and the condition of the pancreas. It is, however, quite clear that these stones did not obstruct the common duct in such a way as to force bile into the pancreatic duct. Therefore, the dilatation of this duct can be explained only on the basis of some other obstruction. The exact mechanism is not clear, but tends to confirm the view first put forward by Opie that there is a definite relation between stone in the biliary passages and acute hemorrhagic pancreatitis.

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CARBON TETRACHLORIDE IN THERAPEUTICS

CHOPRA and MCVAIL (*Ind. Med. Gaz.*, Oct., 1923) report on an experimental and clinical study of carbon tetrachloride in the treatment of helminthiasis. They find that this drug is the most efficient anthelmintic known for hookworm, but that it is of little value in Ascaris infections, and of no value against Taenia. The toxic dose of 1 to 4 c.c. per kilo body weight is far in excess of the therapeutic total dose of 5 c.c. which is given to a normal individual weighing 65 kilos. Owing to its low solubility and volatility and consequently slow rate of diffusion, only small quantities are absorbed into the circulation. Large quantities can therefore be introduced into the alimentary canal without untoward effects. When given in medicinal doses and with a purge to persons organically sound it is safe, provided that it is pure and does not enter the larynx. Carbon tetrachloride and its vapor are very irritating, and if brought into contact with the mucous membrane of the respiratory tract in any concentration may produce a reflex stoppage of respiration and later a stoppage of the heart and death. Therefore it must not be forced on struggling children. The great contraindication is a liver with impaired function, such as is caused by alcoholism. The liver appears to retain a large proportion of what is absorbed and thus protects the other vital organs. The presence of heavy round worm infection may also be a contraindication. Large doses, whether single or divided, have a damaging effect on the liver parenchyma. With therapeutic doses the damage, if any, is temporary and unimportant.

[E. D. C.]

SOME CAUSES OF INTESTINAL OBSTRUCTION

THOMSON, J. W. (*Brit. Med. Jour.*, Oct. 6, 1923), stresses the following points in the diagnosis of acute intestinal obstruction: (1) continuous and persistent vomiting; (2) no passage of flatus in twenty-four hours, notwithstanding appropriate treatment; (3) increasing abdominal distention. He says that we must not wait for the onset of so-called faecal vomiting. It is a sure sign of intestinal obstruction, but it is also a clear indication that death is imminent.

[R. C.]

CHOLECYSTITIS AND GALL-STONES IN THE LIGHT OF RECENT RESEARCH

HURST, A. F. (*The Practitioner*, Nov., 1923), discussing the pathogenesis, symptomatology and treatment of gall-stones, emphasizes the value of the examination of the bile and duodenal contents. He finds that in gall-bladder infections the bile and duodenal contents contain pus cells and cholesterol crystals more frequently than under normal conditions, and that when the gall-bladder has subsequently been removed at operation the same kind of cells and bacteria have been found in its contents as were discovered in the bile obtained through the duodenal tube.

[R. C.]

RICKETS AS A DEFICIENCY DISEASE

HOPKINS, F. G. (*Brit. Med. Jour.*, Oct. 27, 1923), considers the evidence obtained in the course of recent experimental studies, which shows that a specific dietetic deficiency plays an important part in the causation of rickets. He points out also, that if, for instance, the diet lacks vitamin "X" exposure to sunlight, or to the mercury lamp radiations, will prevent the occurrence of rickets. On the other hand, as Hess, and later, Goldblatt and Soames, have shown, if the diet is satisfactory, and contains a sufficiency of the vitamin, rickets never develops, even when the animals are kept in the dark.

[R. C.]

THE RELATION OF GASTRIC ULCER TO CARCINOMA

MORLEY, J. (*The Lancet*, Oct. 13, 1923), is of the opinion that a patient with a chronic simple ulcer of the stomach is little if at all more liable to cancer than a healthy individual. He finds that roughly thirty per cent. of cases of cancer of the stomach give rise to symptoms which simulate more or less closely those which we usually associate with simple ulcer, and he holds that it is this ulcer-simulating cancer which is responsible for the belief in the cancerous degeneration of simple ulcers.

[R. C.]

Luxation of the Hand

Nicolaysen, Kund (*Acta Chirurgica Scandinavica*, 3, x, 1923) cites a case of luxation of the hand at the radio-carpal joint. This condition alone without fracture or tearing of the styloid of the radius, is said to be rare. A man of 44, from pressure exerted against the dorsum of the hand, received a forward dislocation of the carpus, with the semilunar bone luxated dorsalward. The wrist was pushed radialward and somewhat pronated. He was seen eight days after injury, at which time there was considerable swelling on the radial side of the wrist. A projection into the palm was indistinctly felt. X-rays confirmed the clinical diagnosis of luxation, and showed no fracture. There was some dorsi and volar flexion. Abduction and adduction were restricted. There was only slight flexion and extension of fingers. With narcosis, strong pressure was exerted on the projection in the palm. An audible and palpable click announced the reposition, which was confirmed by x-rays. Restoration of function was complete in about a month.

[J. S. H.]

A Case of Simultaneous Luxation of Both Ends of the Clavicle

Beckman, Torsten (*Acta Chirurgica Scandinavica*, 4, ix, 1923) describes an open reduction in a case of simultaneous luxation of both ends of a clavicle in a boy of 13 years. The boy was run over by an automobile, squeezed under the chassis, between the front wheels in a very compressed position, and the left shoulder run over by a rear wheel. The left clavicle was completely severed from normal relations and lay nearly in the sagittal plane, with sternal end midway between sternum and acromion, subcutaneously, and with acromial end level with the spine of the scapula beneath trapezius. After five days open operation was done. The clavicle was found completely severed from normal connections, subperiosteally. It was fairly easily returned to normal position, then sutured to periosteum and soft parts with heavy catgut. The arm was fixed to the body, with baking and massage later. One and one-half years later shoulder and arm motions were normal. There was increased prominence of supra- and infraclavicular fossae.

Something like fifteen other cases have been reported with, as a rule, a presternal and supra-acromial luxation, but with one retrosternal. Accompanying rib fracture occurs. Conservative non-operative treatment had been adopted in these cases, with a good functional result in 66 per cent. and ideal healing in 40 per cent. These figures influence the writer in favor of open reduction in this type of injury.

[J. S. H.]

Generalized Osteitis Fibrosa

Dawson, J. W., and Struthers, J. W. (*Ed. Med. Jour.*, Oct., 1923), give a case of generalized osteitis fibrosa with parathyroid tumor and metastatic calcification. Their paper also includes a critical discussion of the pathological processes underlying osseous dystrophies; with twenty-two very beautiful illustrative plates.

[R. C.]

Some Fibrotic Diseases of the Lungs and their Incidentals

Oliver, T. (*The Practitioner*, Oct., 1923), groups the causes of Pulmonary Fibrosis under three heads, as follows: (1) the action of soluble toxins formed by micro-organisms such as tubercle, syphilis, influenza, and pneumonia; (2) irritation consequent upon the inhalation of fine particles of dust; or (3) pleurisy.

[R. C.]

The Artificial Light Treatment of Lupus and Other Forms of Tuberculosis

Reyn, A. (*Brit. Med. Jour.*, Sept. 22, 1923), in his discussion on the artificial light treatment of lupus and other forms of tuberculosis, summarizes his remarks as follows:

1. The non-operative treatment is the principal one in cases of surgical tuberculosis, not only in children but also in adults.
2. Light baths (sun or artificial) are indispensable in the non-operative treatment of surgical tuberculosis.
3. The carbon arc light can fully replace sunlight, and is much superior to the mercury arc light.
4. Sanatoriums in mountain heights, as well as at the seaside, should have artificial light baths at their disposal.
5. In the treatment of lupus vulgaris concentrated chemical light is absolutely indispensable, and it is of the greatest value to combine local treatment with light baths.

[R. C.]

High Blood Pressure

Brockbank, E. M. (*The Lancet*, Oct. 20, 1923), in his discussion of high blood pressure, emphasizes the use of diathermy in treatment. He found that all the patients, with or without obvious organic disease of the kidneys or cardiovascular system, felt better, and some of the latter continued with it at their own request after he had wished to discontinue its use, as the pressure was not materially reduced. Diathermy has given encouraging results in some of his cases of angina pectoris, associated with high blood pressure and over-strain of the heart muscle.

[R. C.]

TUBERCULOSIS DEATH RATE IN BOSTON

In 1850, with a population of 138,788, there were 586 deaths from tuberculosis. The greatest number was recorded in 1886, when there were 1607 deaths. Since that time there has been a steady decline. In 1922 there were 724 deaths in a population of 764,017.

Dr. Douglas A. Thom, Director of the Children's Habit Clinic, has prepared a series of leaflets for use by mothers and teachers in overcoming certain undesirable habits in children. The first one refers to finicky, capricious customs concerned with food-taking. Others will include attention to temper tantrums, changes of personality, and so on.

Additional copies of this leaflet insert may be obtained by sending five cents in stamps to his office, at 5 Joy Street, Boston.—*Monthly Bulletin of the Massachusetts Society for Mental Hygiene.*

THE BOSTON
Medical and Surgical Journal
Established in 1828

Published by The Massachusetts Medical Society under the jurisdiction of the following-named committee:

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SUBSCRIPTION TERMS: *$6.00 per year in advance, postage paid for the United States, $7.56 per year for all foreign countries belonging to the Postal Union.*

Material for early publication should be received not later than noon on Saturday. Orders for reprints must be sent to the printer with galley proof of paper. Upon written request, authors will be furnished free one hundred eight-page reprints, without covers, or the equivalent in pages in articles of greater length.

The Journal does not hold itself responsible for statements made by any contributer.

Communications should be addressed to The Boston Medical and Surgical Journal, 126 Massachusetts Ave., Boston, Mass.

THE JACKSON PROFESSOR OF CLINICAL MEDICINE AT THE HARVARD MEDICAL SCHOOL

DR. JAMES HOWARD MEANS has been appointed to this high office made vacant by the recent resignation of Dr. Edsall.

The events leading up to the founding of this professorship were the receipt of a letter forwarded by the subscribers to the medical fund in which the name of Dr. James Jackson was suggested to be associated with this fund in connection with the Medical Department of the University. The Corporation ordered that the fund be called the Jackson Medical Fund and that the Professor of Clinical Medicine shall be known as the Jackson Professor of Clinical Medicine.

On October 9, 1905, Mr. Eliot Lee contributed $25,000 to the Medical School, to be transferred to the Jackson Medical Fund to increase the endowment of the Jackson Professor of Clinical Medicine. The position was filled in the first instance by Dr. James Jackson.

A brief sketch of Dr. Means' training and activities indicates the quality of service which he will bring to this position.

Dr. Means was born in Dorchester, Mass., June 24, 1885, the son of James Means and Helen G. (Farnsworth) Means. His record is as follows:

Prepared for college at Noble and Greenough's School, Boston, Mass.

Special student in Biology and Chemistry at Massachusetts Institute of Technology—1902-1903.

Harvard College, A.B.—1907.

Harvard Medical School, M.D.—1911.

Massachusetts General Hospital medical interne, graduated in March, 1913.

During the spring months of 1913 studied methods of calorimetry at the Carnegie Institute Laboratory, Boston.

In the summer and autumn of 1913 studied with Prof. August Krogh, Copenhagen, and with Mr. Joseph Barcroft at the University of Cambridge, England.

From 1913 to 1916 he held the Henry P. Walcott Fellowship at Harvard and carried on studies in metabolism and in the physiology and pathology of respiration at the Massachusetts General Hospital.

In 1916 he was appointed Teaching Fellow in Medicine; in 1919 Instructor in Medicine, and in 1921 Assistant Professor of Medicine at the Harvard Medical School.

In 1917 he was appointed Associate in Medicine at the Massachusetts General Hospital, which position was held until his recent appointment as Chief of the Medical Services at that institution.

From June, 1917, to March, 1919, he was in active service in the Medical Corps of the U. S. Army and was attached to Base Hospital No. 6 and was discharged with the rank of Major. At present he holds a commission as Lieutenant-Colonel in the Medical Officers' Reserve Corps and has been assigned as Commanding Officer of General Hospital No. 6, the Massachusetts General Hospital Unit.

Dr. Means is a clear and forceful writer, a good speaker, and possesses a pleasing personality. His advent into the higher ranks of medical pedagogy opens great opportunities for service to Medicine.

The JOURNAL extends hearty congratulations to Dr. Means, and hopes that he will favor our readers with frequent contributions.

CAUSES FOR THE RECENT DECLINE IN TUBERCULOSIS

DR. LOUIS I. DUBLIN, Statistician of the Metropolitan Life Insurance Company, recently addressed the National Tuberculosis Association on the causes for the recent decline in tuberculosis and the outlook for the future.

The decline in the tuberculosis death rate during the last twenty years has been, Dr. Dublin believes, the most outstanding fact in the

tuberculosis problem. In connection with this decline there are two main and opposing explanations. The first explanation, upheld by most of the workers in the field of public health, ascribes this fall in the death rate to the improvement in the general well-being of the population, primarily due to activities within human control. A knowledge of personal hygiene in order that individuals might learn to strengthen their resistance against the disease is largely responsible for this improved well-being, and was the keynote of the general campaign against tuberculosis as outlined by the Association when it was founded in 1904. As a natural result those connected with this world-wide activity have claimed that a certain degree of the decline has been due to their efforts.

The opposing explanation minimizes the importance of the environmental factors in the control of tuberculosis and emphasizes the fact that the decline in the disease antedates by many years the development of the present tuberculosis campaign. The importance of the genetic or constitutional factors is enlarged upon. Those who break down, according to this theory, are those whose constitutions have doomed them to tuberculosis. This tendency is considered as inherited and irrespective of environment, mode of life, or any effort that man may make to avoid infection or build up resistance. The decline, then, depends on the survival of the fittest and the elimination of the unfit stocks.

Certain factors must be admitted, such as an inherited racial immunity, as possessed by the Jews and Italians, in contra-distinction to the more susceptible Irish, and the high ratio found among those exposed to mineral and metallic dusts, alcohol and lead, the hardships of weather and organic dusts. These factors may be taken as favoring the environmental rather than the genetic or constitutional view. Furthermore, the changes in germ-plasm are fixed by inheritance, take generations for their fulfillment, and cannot explain the changes in mortality of the last few years. It becomes incumbent on us to believe that a decline in the tuberculosis death rate in the United States has been not because of improvement of stock, but rather in spite of it.

A doctrine of optimism concerning the value and the future of the tuberculosis campaign is the result of this address. The population in 1922 had a death rate from tuberculosis already probably below 90 per 100,000, and it is a reasonable expectation that by 1930 this rate will be cut to 50, a figure that has already been achieved in New Zealand, Australia, and a very few of our individual States.

Eclectic: Selecting; choosing from various sources or systems (Webster). Eclectic medical examining boards play true to form.

HEALTH EXAMINATIONS

As previously reported in the JOURNAL, Dr. Bigelow has agitated this subject.

In order to have the matter considered, he has appointed a committee with the request that a report shall be submitted to the Council of the Massachusetts Medical Society next February.

The committee consists of Dr. Roger I. Lee, chairman; Dr. Walter P. Bowers, Clinton; Dr. José Penteado Bill, Boston; Dr. F. H. Burnett, Brockton; Dr. R. B. Butler, Fall River; Dr. J. B. O'Connor, Lowell; Dr. Arthur R. Crandell, Taunton; Dr. Kendall Emerson, Worcester; Dr. W. O. Hewitt, Attleborough, and Dr. James S. Stone, Boston.

This is considered to be a matter of great importance by many leading men in the profession. There are features in the plans proposed which will affect the general practitioner very definitely. If the custom is generally adopted, the family physician must prepare himself to do this work creditably. If he does it well according to accepted standards he will maintain his position with his patients. If his methods are slipshod and inaccurate he will lose the confidence of his clientele, and be regarded as a second-rate doctor. If he does not care to perfect himself in the technique of simple routine examinations such as blood smears, however well he may use the stethoscope, he will be at a disadvantage. He can, of course, refer specimens to technicians, and if the rest of the work is well done he may "get by."

Some advocates of this plan contend that only men recognized by local societies should do this work. This in time will tend to divert patients to others.

If there is to be developed another specialty, the effect on the income and standing of the family doctor may be serious.

It may be well to inaugurate the custom on a comparatively simple routine plan, bringing the doctor and patient into closer contact outside the sick-bed and gradually teaching the doctors the best methods. Of course, there will always be cases among the well-to-do when conflicting symptoms or findings, more or less obscure, call for extended and expensive investigations, for which such people can afford to pay, but ways must be provided to meet the needs of persons of limited means. Some examinations of this sort have, according to reports, cost the patients much in excess of one hundred dollars. There was probably need for expert investigation, but there should be no ground for suspicion that the applicant for a health examination has been unduly exploited.

The committee's report will be received with interest.

HE MUST GO

UNDER this caption the Automobile Legal Association has started a campaign against the drunken drivers of automobiles. A bill has been filed which reads as follows:

AN ACT RELATING TO THE OPERATION OF MOTOR VEHICLES WHILE UNDER THE INFLUENCE OF INTOXICATING LIQUORS

Be it enacted, etc., as follows:

Section 1. Chapter 90 of the General Laws is hereby amended by inserting after Section 24 the following section:—

Section 24 A. Whoever upon any way operates a motor vehicle while under the influence of intoxicating liquor shall be punished by imprisonment for not less than three months nor more than two years. A conviction of a violation of this section shall be reported forthwith by the court or magistrate to the registrar, who shall revoke immediately the license of the person so convicted, and no appeal from the judgment shall operate to stay the revocation of the license. If it appears by the records of the registrar that the person so convicted is the owner of a motor vehicle or has the exclusive control of any motor vehicle as a manufacturer or dealer, the registrar may revoke the certificate of registration of any or all motor vehicles so owned or exclusively controlled. The registrar in his discretion may issue a new license to any person acquitted in the appellate court, but no new license shall be issued by the registrar to any person convicted of operating a motor vehicle while under the influence of intoxicating liquor until three years after the date of final conviction. The prosecution for the violation of the provisions of this section shall not be placed on file or otherwise disposed of except by trial, judgment and sentence according to the regular course of criminal proceedings.

Section 2. All parts of Section 24 of Chapter 90 of the General Laws inconsistent with this section are hereby repealed.

It is claimed by the Association that "One person in every three killed in Massachusetts by automobiles in 1922 was slain by a drunken or a reckless driver. In Rhode Island one person in every six killed by autos during 1922 was killed by either a drunken or a reckless driver. The court convictions of drunken auto drivers in Massachusetts jumped from 888 in 1920 to 2108 in 1922, and 1923 will show a still greater increase."

The writer of the article scores our methods of dealing with this class of drivers, and calls upon our judges and police officers to wage relentless war on these criminals.

This is a matter that can properly appeal to physicians, and the influence of the profession should be given in support of this bill.

THE CADUCEUS

THE joint Legislative Committee composed of representatives of the Massachusetts Medical Society and the Massachusetts Homeopathic Medical Society has been informed that the plan to secure legislation restricting the use of the Caduceus in Massachusetts to registered physicians does not meet the approval of Mr. Goodwin, who has charge of the registration of automobiles, and he will oppose the enactment of a law with this object in view. It is stated that at the present time anybody can buy this emblem and this seems to Mr. Goodwin an argument against its use. He suggests that the emblem be copyrighted so that it could be issued only by the concern duly authorized. If the law should be enacted he has threatened to prosecute every person other than the doctor owner using a car with this emblem displayed, even though a member of a physician's family.

It would be futile to attempt to secure a law of this character, for it could not be enacted over the objection of Mr. Goodwin. If copyright would secure the desired end, that plan should be investigated, provided that there is a consensus of opinion among physicians in favor of the universal adoption of the Caduceus.

THE SOMERVILLE MEDICAL SOCIETY

THE annual meeting of this society was held at Young's Hotel, December 12, 1923. After an informal social half hour in the rooms and corridors the members were conducted to a private dining-room and enjoyed an excellent dinner arranged for by Dr. Mongan.

After the dinner Dr. W. D. Ruston, the President, called the meeting to order and read a communication from Dr. Eugene R. Kelley, Commissioner of Public Health, in which attention was called to the incidence of diphtheria in Somerville, and the suggestion made that the society exert its influence in the application of the Schick test and appropriate treatment of the susceptible children.

On motion of Dr. Mongan a resolution was passed recommending intensive activity by the Somerville Board of Health and offering the coöperation of the Society in meeting the conditions which have been found to exist.

The Nominating Committee through Dr. Herbert E. Buffum presented its recommendations for officers for the ensuing year. The recommendations were adopted, and the following-named fellows elected by ballot: President, Dr. Eugene L. Maguire; vice-president, Dr. Herbert Cholerton; secretary, Dr. Edmund H. Robbins; treasurer, Dr. Allen H. Blake.

The annual dues of this society are $3.00, and the treasurer reported an unexpended balance.

Dr. Ruston then introduced the incoming president, after thanking the society for the support and coöperation given during his service of the past two years.

Dr. Maguire called upon Dr. Enos H. Bigelow, President of the Massachusetts Medical Society, who commended the society for its activity and the quality of the work done. He spoke especially of the effective opposition to the unjust demands of the telephone company of recent times, which was carried on by the society at its own expense. He felt that the Massachusetts Medical Society should have paid these expenses. He entertained the meeting by witty allusions to topics of interest.

Dr. W. P. Bowers discussed some phases of medical politics, and called attention to some bills that are to be presented which it is hoped will be passed by the Legislature and which, if enacted, will raise the standards of medical education and practice.

This meeting was most enjoyable, for the spirit of good fellowship and harmony showed that Somerville has one of the most progressive and active societies in the State.

Miscellany

THE NATIONAL HEALTH SERIES

TWENTY HEALTH BOOKS EDITED BY THE NATIONAL HEALTH COUNCIL

In order to make available to the general public at moderate prices authoritative books on all phases of human health, the National Health Council has arranged with the Funk and Wagnalls Company for the publication of the National Health Series. It will contain twenty books of about 18,000 words each, written by the leading health authorities of the country. These books, bound in flexible fabrikoid, sell for 30 cents each or $6.00 for the series of twenty. They are to be issued in sets of five, the first set appearing about the middle or last of December, 1923.

Titles, authors, and brief descriptions of each book are as follows:

Man and the Microbe: How Communicable Diseases are Controlled. By C.-E. A. Winslow, Dr. P.H.; Professor of Public Health, Yale School of Medicine.

A description of germs and germ diseases and how they are spread, together with practical methods of disease prevention by means of sanitation.

The Baby: Essentials for Its Life and Health. By Richard A. Bolt, M.D., Gr. P.H.; Director Medical Service, American Child Health Association.

How to care for the baby so that it will be healthy, will develop properly, and be strong and free from disease.

Personal Hygiene: The Rules for Right Living. By Allan J. McLaughlin, M.D., Surgeon, United States Public Health Service.

Practical suggestions as to how to apply personal hygiene to promote health and get the most out of life.

The Community and Your Health: What Each Means to the Other. By D. B. Armstrong, M.D., Sc.D.; Executive Officer of the National Health Council.

An outline of what the community should do for the health of its citizens and what each person should do to make his community a healthy place.

Cancer: Nature, Diagnosis, and Cure. By Francis Carter Wood, M.D.; Director, Institute for Cancer Research, Columbia University.

The best statement about cancer ever written for the laity. It tells what it is and how to know it and have it cured.

The Human Machine: How the Body Functions. By W. H. Howell, Ph.D., M.D., LL.D., Sc.D.; Associate Director, School of Hygiene and Public Health, Johns Hopkins University.

A non-technical, literary description of the anatomy and physiology of the human body, the most wonderful machine of all.

The Tiny Toddler: Health of the Young Child. By Henry L. K. Shaw, M.D.; Clinical Professor, Diseases of Children, Albany Medical College.

How to care for the health of the runabout child from two to six years of age.

The Child in School: Care of Its Health. By Thomas D. Wood, M.D.; Professor of Physical Education, Teachers College, Columbia University.

Promotion of health habits in children of school age and exactly how to go about it.

Tuberculosis: Nature, Treatment, and Prevention. By Linsly R. Williams, M.D., Managing Director, National Tuberculosis Association.

Covers the whole field of tuberculosis, the cause, spread, treatment, prevention and duties of citizens, patients, and the community.

The Quest for Health: Where It is and Who Can Help Secure It. By James A. Tobey, M.S.; Administrative Secretary, National Health Council. (Tentative.)

A statement of what health is, how it may be obtained, and a description of the actual help which the government, states, municipalities, physicians, and voluntary health agencies can give to individuals.

Love and Marriage: Normal Sex Relations. By T. W. Galloway, Ph.D., Litt. D.; Associate Director of Educational Measures, American Social Hygiene Association.

The various elements, biological, social, and

sexual, which make up a successful and happy married life.

Food for Health's Sake: What to Eat. By Lucy H. Gillett, M.A., Superintendent of Nutrition, Association for Improving the Condition of the Poor, New York.

An outline of what and how to eat for maximum efficiency and health building.

Health of the Worker: How to Safeguard It. By Lee K. Frankel, Ph.D.; Chairman, National Health Council.

Hygiene and sanitation in factory and shop, and how industrial workers can protect and promote their health.

Exercise and Individual Health: By Lenna L. Meanes, M.D., Medical Director, Women's Foundation for Health.

Illustrative material giving to individuals the type of exercise best suited to each one's personal needs.

The Venereal Diseases: Their Medical, Nursing, and Community Aspects. By W. F. Snow, M.D., General Director, American Social Hygiene Association.

A non-technical discussion of cause, spread, treatment, cure and prevention of each of these diseases and related social hygiene questions.

Your Mind and You: Mental Health. By Frankwood E. Williams, M.D., Medical Director, National Committee for Mental Hygiene.

Describes how your mind can be a friend or enemy and how it can be enlisted as your ally.

The Heart: How to Take Care of It. By T. Stuart Hart, M.D.; President, Association for the Prevention and Relief of Heart Disease, New York.

How to avoid and prevent heart troubles, which form the leading cause of death in this country.

The Expectant Mother: Care of Her Health. By R. L. DeNormandie, M.D.; Specialist, Boston, Mass.

The health care needed during pregnancy in order that both mother and baby may be healthy and well.

Home Care of the Sick: By Clara D. Noyes, R.N.; Director of Nursing, American Red Cross.

What to do in the home when illness is present. Practical suggestions for the care of the sick.

Adolescence: Educational and Hygienic Problems. By Maurice A. Bigelow, Ph.D.; Professor of Biology and Director School of Practical Arts, Teachers College, Columbia University.

The scientific and sociological aspects of adolescence to explain the proper transition from childhood to adult life.

CLINICS AT THE CAMBRIDGE HOSPITAL

THE first of a series of Hospital Days under the auspices of the Middlesex South District Medical Society was held at the Cambridge Hospital, Mt. Auburn Street, Cambridge, Wednesday, December 12, 1923.

It is proposed to make these meetings a regular feature of the society's activities, to be held at stated intervals at various hospitals in this district.

The meeting consisted of ward visits, general inspection of the hospital plant, and clinics in the various departments, followed by a buffet lunch, and was attended by over 100 physicians.

The following clinical program was presented:

SURGICAL CLINIC. OPERATING BUILDING. 9 A.M.

OPERATIONS AND DEMONSTRATIONS

1. Radical Cure of Inguinal Hernia. Local Anesthesia. Dr. H. P. Stevens.
2. Gastro-enterostomy. Appendectomy. Duodenal Ulcer. Chronic Appendicitis. Dr. A. August.
3. Demonstration of Cancer of Tongue, with Discussion of Etiology, Diagnosis, Prognosis and Treatment. Dr. H. P. Stevens.
4. Appendectomy. Sub-acute Appendicitis. Dr. W. S. Whittemore.
5. Demonstration and Discussion. Cases of Intestinal Adenocarcinoma. Dr. A. W. Dudley.
6. Nephrectomy. Acute Surgical Double Kidney. Dr. A. H. Crosbie. Discussion by Dr. L. H. Spooner.
7. Demonstration Case of Infantile Pyloric Stenosis. Dr. E. A. Darling.
8. Biopsy-Section of Tumor of Tongue. Dr H. P. Stevens.
9. Cholecystectomy. Acute Cholecystitis. Dr. H. P. Stevens.

NOSE AND THROAT CLINIC. O. P. D. OPERATING ROOM. 10 A.M.

1. Demonstration of Sluder Method of Tonsillectomy. Twelve Cases. Dr. E. J. Butler.
2. Discussion of a Group of General Nose and Throat Cases. Dr. E. J. Butler.

MEDICAL CLINIC. LECTURE ROOM. 10 A.M.

1. Demonstration and Discussion of Medical Cases. Dr. F. R. Jouett.
   (*a*) Pneumonia.
   (*b*) Diabetes Mellitus. Insulin Treatment.
   (*c*) Acute Endocarditis.
   (*d*) Acute Mercury Poisoning.
2. Discussion of Treatment of Diabetes with Insulin Prior to and Following Surgical Operation. Dr. J. H. Taylor.

3. Discussion of Case of Aplastic Anemia. Dr. J. P. Nelligan, Dr. G. P. Cogswell.

NEUROLOGICAL CLINIC. LECTURE ROOM.
11.30 A.M.

1. Demonstration and Discussion of Neurological Cases. Dr. F. B. M. Cady.
(*a*) Huntington's Chorea.
(*b*) Brain Tumor.
(*c*) Paraplegia.
(*d*) Hemiatrophy of Tongue. Probable Bulbar Palsy.

The JOURNAL has been informed by some of the doctors in attendance that these exercises were most valuable, and great interest was shown. There is a very general feeling throughout the country that exercises of this character constitute available and valuable methods of post-graduate instruction.

BOSTON ASSOCIATION FOR THE PREVENTION AND RELIEF OF HEART DISEASE

THIS organization, composed of physicians and others interested in preventive medicine, has issued a small folder giving statistical information relating to heart disease and detailing the causes and methods of prevention.

With this folder the subjoined letter has been sent to physicians:

BOSTON ASSOCIATION
FOR THE
PREVENTION AND RELIEF OF HEART DISEASE

President, Dr. Henry Jackson; Vice-President, Dr. William H. Robey; Secretary, Dr. Samuel A. Levine, 270 Commonwealth Ave., Boston; Treasurer, Mr. C. E. Cotting, 44 State Street, Boston; Chairman, Executive Committee, Dr. Paul D. White.

Board of Governors: Dr. Richard C. Cabot, Miss Ida M. Cannon, Mr. C. E. Cotting, Mrs. Marie G. Dennett, Dr. George P. Denny, Dr. William H. Devine, Dr. Paul W. Emerson, Dr. Richard S. Eustis, Dr. Burton E. Hamilton, Dr. Henry Jackson, Mr. Arthur S. Johnson, Dr. Roger I. Lee, Dr. Samuel A. Levine, Mrs. Henry Lyman, Dr. Thomas J. O'Brien, Dr. Francis W. Peabody, Dr. Edwin H. Place, Dr. Joseph H. Pratt, Mr. A. C. Ratshesky, Dr. William D. Reid, Dr. William H. Robey, Mrs. Fritz B. Talbot, Dr. Conrad Wesselhoeft, Dr. Paul D. White, Miss Mabel R. Wilson.

Miss Ruth Symonds, Executive Secretary, 240 Longwood Avenue, Boston.

December, 1923.

My dear Doctor:

For several years a body of enthusiastic men interested in the study of disease of the heart has been working with the object of coördinating the various clinics of the city in which cases of Heart Disease are treated. They have had two chief objects,—one, the better care of the individual case,—the second, the study of diseases of the heart, as a whole.

There was incorporated last spring, The Boston Association for the Prevention and Relief of Heart Disease. This association is based on lines similar to associations already well established in New York and Chicago.

An Executive Secretary has been engaged and plans made for several meetings in the near future for the lay public and for physicians. At the Health Meeting in Mechanics Hall, our association has already made a creditable exhibit which seemed to be of interest to visitors.

There is a Board of Governors, made up of medical men, of those especially interested in the work of the various clinics, and of a few others. We earnestly hope that you may assist us by giving to us the prestige of your name and by becoming a member of the association. All charity work costs money, but we feel that the small amount of money which we expend will bring forth fruit worthy of our labors.

Sincerely yours,

HENRY JACKSON,
President.

Annual Member	$3
Sustaining Member	$10
Life Member	$100

Checks may be sent to our Treasurer, Mr. C. E. Cotting, 44 State Street.

Although there are multitudes of appeals for contributions, this effort warrants careful consideration by physicians.

The circular should be put in the hands of all parents, for this disease, like tuberculosis, is contracted early in life in a very large proportion of cases.

If you have not received the letter and folder apply to the executive secretary.

ESSEX SOUTH DISTRICT

THE Essex South District Society held its regular meeting at Beverly Hospital on November 21, with the following program:

Dinner at 7 o'clock preceded an address by Dr. F. Gorham Brigham of Boston upon "Insulin." Dr. Brigham spoke of the five types of diabetes, and explained the importance of correct diagnosis and the necessity for differentiating coma as a result of acidosis with low blood sugar from coma of diabetic origin with high blood sugar in considering the administration of insulin. He also referred to the recent increase in the strength of the product and the change in designation which took place November 1. He carefully explained the diabetic diet and the ease with which it may be worked out for home use, and distributed to all present printed instructions for diet, the use of insulin, and keeping of records. Attendance, 60.

WILLIAM T. HOPKINS, *Reporter.*

JOINT MEETING OF ESSEX NORTH AND SOUTH

THROUGH the courtesy of the County Commissioners of Essex and the kindness of Dr. Pettingill, Superintendent of the Tuberculosis Hospital at Middleton, a joint meeting of Essex North and South was held at that institution on December 7, 1923.

Clinical demonstrations were conducted by Dr. Stanhope and Dr. Zacks of the staff, followed by a six-reel motion picture showing "Physical Examination of the Chest."

A buffet lunch was served preceding the evening session, at which Dr. Edward O. Otis of Boston acted as chairman.

In his opening remarks Dr. Otis referred to the new "tuberculin cure" and its tryout in the London hospitals up to the time of his visit there in the summer.

Dr. John B. Hawes, 2nd, of Boston gave an address upon "Chronic Respiratory Diseases, with Especial Reference to the Diagnosis of Tuberculosis." The discussion was led by Drs. R. E. Stone of Beverly and George E. Tucker of Salem.

Dr. Schwartz of the staff of the hospital at Perrysburg, N. Y., for the treatment of non-pulmonary tuberculosis by heliotherapy, delivered a lecture upon this form of treatment, illustrated by a remarkable series of slides and motion pictures which appeared very convincing. Discussion by Dr. P. P. Johnson of Beverly, Dr. S. Chase Tucker of Peabody, and Dr. Walter G. Phippen of Salem. Adjourned 11 p.m. Attendance, 90.

WILLIAM T. HOPKINS, *Reporter.*

SPRINGFIELD ACADEMY OF MEDICINE

THE regular meeting of the Springfield Academy of Medicine was held Tuesday, December 11.

Dr. George Schadt reported a case of streptococcus septicemia—cured.

Dr. John F. Erdman, Professor of Surgery at the New York Post-Graduate Hospital, read the paper of the evening, entitled, "Breast Tumors—a Clinical Consideration."

The discussion was opened by Drs. F. B. Sweet and Charles F. Lynch. General discussion followed.

Luncheon was served after the meeting.

HARVARD MEDICAL SOCIETY

A MEETING of this Society was held in the Peter Bent Brigham Hospital Amphitheatre Tuesday evening, December 11, with the following program:

1. Observations on the Hearts of Marathon Runners, by Dr. Burgess Gordon.
2. Hyperthyroidism Masked as Heart Disease, by Dr. C. C. Sturgis and Dr. S. A. Levine.

A CHRISTMAS GREETING

AND now as Tiny Tim observed, "God bless us every one!" God bless our doctors, nurses, and all who minister to the sick and suffering at this Christmas time, bringing comfort, hope and cheer to weak and fainting hearts.

Forty-five years ago the door in the old amphitheatre at the Massachusetts General Hospital opened and Surgeon George McLeod of Glasgow came in,—the man whose skill saved Dr. MacLure's patient, as told by Ian Maclaren in "A Doctor of the Old School, a General Practitioner," in "The Bonnie Briar Bush."

Handsome George he was called in Glasgow. The vision of his noble face and figure that day has never faded from one student's mind.

How kind and sympathetic he was with Dr. MacLure's patient, Annie—Tammas' dear wife. God bless him for his good heart!

"When the doctor placed the precious bag beside Sir George in our solitary first next morning, he laid a cheque beside it and was about to leave. 'No, no,' said the great man. 'Mrs. MacFayden and I were in the gossip last night and I know the whole story about you and your friend.'

" 'You have some right to call me a coward, but I'll never let you count me a mean, miserly rascal,' and the cheque with Drumsheugh's painful writing fell in fifty pieces on the floor.

"As the train began to move a voice from the first called, so that all in the station heard, 'Give's another shake of your hand, MacLure; I'm proud to have met you. You are an honor to our profession. Mind the antiseptic dressing."

Thank God the world is full today of brave, kindly hearts, ministering to the poor, the sick and needy, and, please God, their ministry shall never fail.

ENOS H. BIGELOW.

NEW NARCOTIC REGULATION

PHYSICIANS have probably received the circular sent by the Collector of Internal Revenue stating that on and after January 1, 1924, new blanks must be used when purchasing narcotic drugs.

The old blanks may be used up to that time.

There is a reported prospective shortage of opium and its derivatives due to a short crop.

A FEW FACTS ABOUT THE CONTRIBUTIONS TO THE FUND FOR THE DORMITORY OF THE HARVARD MEDICAL SCHOOL

CONTRIBUTIONS have been received from 100 per cent. of the students, over 90 per cent. of the professors, over 90 per cent. of the general committee, over 80 per cent. of the staff of one hospital, over 60 per cent. of the staff of another hospital, and from six superintendents of Boston hospitals.

THE PHYSICIANS' HOME, INC.

A CIRCULAR has been sent to physicians signed by Robert T. Morris, M.D., Ralph Waldo, M.D., Albert G. Weed, M.D., and Silas F. Hallock, M.D., suggesting contributions to be applied to the maintenance of homes for physicians.

One unit has been established at Caneadea, N. Y., where one hundred and eighty-six acres of land have been given by Dr. Stephen V. Mountain of Olean, N. Y., as a memorial to his father. The home extends a welcome to every worthy physician and, if necessary, to his dependent family. The plan is outlined in the attached circular:

TEN REASONS WHY I SHOULD BECOME A MEMBER OF THE PHYSICIANS' HOME, INC.

1. The Home is now established and completely equipped in New York State.
2. There are now seven physicians happily established at the Home without expense to them of any kind.
3. It provides a home with ideal environment for any and all aged physicians and their dependents, physically incapacitated, from any State in the Union.
4. Contributions for national, foreign, religious and civic calls are excellent; but a plea for the comfort of my aged brethren appeals directly to me.
5. There are any number of homes for the aged in every State; there is no home solely for the incapacitated physician, save this one.
6. If perchance fate required my seeking refuge, which home would I elect?
7. While in the vigor of health and active practice, can I afford to ignore this appeal?
8. A responsible Board of Trustees, which warrants every dollar will be expended economically to equip and maintain the Home at the highest standard within our means.
9. End-result idea: To establish a unit Home in the South and one in the West.
10. The Physicians' Home, Inc., has the sympathy and endorsement of the American Medical Association through a unanimous vote of the House of Delegates.

THE DIRECTORS.

LEGAL FORM OF BEQUEST

I hereby will and bequeath $..... to The Physicians' Home, Inc., of New York.

APPOINTMENT OF DR. KRAKER

DR. FLORENCE E. KRAKER, of Philadelphia, who has just returned from a year in China, where she was on the teaching staff of the Margaret-Williamson Hospital at Shanghai, has been appointed specialist in maternal hygiene in the Children's Bureau of the U. S. Department of Labor, it was announced today.

Doctor Kraker will also be associate director of the maternity and infancy division of the Children's Bureau, which has immediate direction of the federal maternity and infancy act.

Doctor Kraker's work in China, where she helped to give modern obstetrical training to young Chinese women doctors, was preceded by years of experience in connection with medical schools in this country. She is a graduate of the Woman's Medical College of Philadelphia. She was a resident in the lying-in Charity Hospital of Philadelphia and also in the maternity department of the Presbyterian Hospital of the same city. For sixteen years she was a member of the teaching staff of the maternity department of the Woman's Medical College, during the later years of her work there being professor of clinical obstetrics.—U. S. Department of Labor, Children's Bureau, Washington.

MORTALITY FROM CANCER: 1922

THE Department of Commerce announces that compilations made by the Bureau of the Census show that 80,938 deaths were due to cancer in the death registration area in 1922, which comprised about 85.3 per cent. of the total population of the United States, and if the rest of the United States had as many deaths from this cause in proportion to the population, the total number of deaths from cancer in the entire United States was 95,000 for 1922, against a corresponding estimate of 93,000 for 1921.

The death rate from cancer in the registration area in 1922 was 86.8 per 100,000 population, as against 86 in 1921. Only five states show lower rates for 1922 than for 1921. In comparing the death rate from cancer in one State with that in another, the Bureau uses "adjusted" rates in order to make allowance for differences in the age and sex distribution of the population, because, generally speaking, only persons in middle life and old age have cancer, so that a State with many old persons may be expected to have more deaths from cancer than a State with comparatively few old persons.

The highest adjusted cancer rate for 1922 is 106.9 per 100,000 population for the State of Rhode Island, and the lowest is 53.1 for Tennessee. For a few States adjusted rates have been calculated separately for the white and colored populations. In this group of States the highest adjusted rate for the white population is 92.5 per 100,000 for Maryland, and the highest for the colored population is 81.7, also for Maryland. The lowest adjusted rate for white

population is 52.8 for Tennessee, and the lowest rate for the colored population is 40.8 for Florida.

There were 4637 deaths from cancer in Massachusetts in 1922, 964 in Maine, 611 in New Hampshire, 456 in Vermont, 1521 in Connecticut, and 751 in Rhode Island.—Department of Commerce, Washington.

HEALTH SERVICE ISSUES ANNUAL REPORT

"To meet the growing demands of American shipping and to reduce serious fire hazards due to antiquated buildings, new marine hospitals are urgently needed," says Surgeon-General Hugh S. Cumming in the 52nd Annual Report of the United States Public Health Service, for the fiscal year ended June 30, 1923.

While stressing the need for new marine hospitals and the difficulty of securing medical officers for the regular corps of the Public Health Service, the Surgeon-General states that "sanitary reports indicate that general health conditions throughout the United States have continued as satisfactory as in recent years. An increasing interest in public health improvement has been noted.

"In these reports, year after year, it is interesting to note the shifting of emphasis, which is due in part to progress in medical science." The present report for 1923 shows that the plague work, which has heretofore been the subject of much consideration in the annual reports, has, temporarily at least, practically faded from the picture. Both human and rodent plague appears to have been eradicated in the United States except for infected ground squirrels in California, and all anti-plague measures in other States have been discontinued.

We are warned, however, that owing to the difficulty of completely exterminating rats on board vessels and the present widespread dissemination of plague, geographically, there is constant danger of the introduction of this disease at all seaports engaged in foreign trade.

While typhus, plague, and yellow fever have been reported from countries with which the United States has been in constant communication, because of the enforcement of international sanitary agreements and the maintenance of national quarantine systems, no cases of major, quarantinable diseases have gained access to this country within the year covered by the report.

Twenty-five hospitals are now operated by the Public Health Service, including the National Leprosarium at Carville, Louisiana. Great advancement in the hospital standards of the Public Health Service is noted. At the same time, there has been a reduction in the *per-diem* cost.

A novel feature of the present report is the section which deals with the use which the Public Health Service is making of radio, for the dissemination of popular health information and the stimulation of a wider interest in general health matters.

The United States Public Health Service was the first national health agency to utilize radio for this purpose. The beginning of its radio activities dates from July 13, 1921. The actual cost to the Bureau for maintaining its Radio Information Service has been insignificant.—United States Public Health Service.

MORTALITY FROM TUBERCULOSIS: 1922

THE Department of Commerce announces that compilations made by the Bureau of the Census show that 90,452 deaths were due to tuberculosis in the registration area of the United States in 1922, with a death rate of 97 per 100,000 population. This is a drop of 2.4 since 1921, in which year the rate was 99.4 per 100,000 population.

Though 12 States show increases in rates for 1922, in 22 States there are decreases, indicating that the general trend is still downward.

To permit better interstate comparisons for the year 1922, adjusted rates based on the standard million population have been calculated. The highest adjusted rate from tuberculosis for 1922 is 172.6 per 100,000 population for Colorado, and the lowest is 36.1 for the adjoining State of Nebraska. The high rate for Colorado should not be ascribed to unhealthfulness of climate, but rather to the fact that the climate attracts those afflicted with tuberculosis.

For certain States adjusted rates have been calculated separately for the white and colored populations. In this group of States Tennessee has the highest adjusted rates for both white and colored (respectively, 121.8 and 299.8 per 100,000 population). The lowest adjusted rate from tuberculosis for white population is 54.5 for Mississippi, and this State and Florida each shows the lowest rate for colored population (171.5 per 100,000 population). In Massachusetts there were 3732 deaths from tuberculosis in 1922; Maine, 654; New Hampshire, 398; Vermont, 326; Connecticut 1356, and Rhode Island, 588. Each of the New England States shows a diminishing number of deaths during the past three years, with the exception of Vermont, where there were 288 deaths in 1920, and 326 in 1922, but the adjusted rate in Vermont is slightly lower than in Massachusetts.—Department of Commerce, Washington.

UNITED STATES MARINE HOSPITALS CROWDED

"OWING to the increased amount of shipping on the Pacific Coast, the marine hospitals at San Francisco and Port Townsend, operated by the United States Public Health Service, are now

overcrowded," Surgeon-General Hugh S. Cumming announced recently.

So great has been the influx of patients, due to the increased activity in American shipping in San Francisco, that the Public Health Service has found it necessary to place many patients in contract hospitals. To increase the capacity at San Francisco, the Service now plans to remove attendants from their quarters to furnished lodgings in the downtown section of the city. By doing this, thirty-eight beds will be added to the capacity of this hospital.

Surgeon-General Cumming also announced that "plans for the enlargement of the Marine Hospital at San Francisco and for a new Marine Hospital to be constructed at Seattle, Washington, are now receiving serious consideration, but that appropriations for these projects will be necessary before they can be undertaken.

RÉSUMÉ OF COMMUNICABLE DISEASES

NOVEMBER, 1923

GENERAL PREVALENCE

The prevalent diseases showing an increase over last month were as follows:

	November 1923	October 1923	November 1922
Chicken-pox	1201	561	664
Diphtheria	1151	1060	1263
Measles	1096	660	1167
Mumps	587	253	449
Pneumonia, lobar	269	197	446
Scarlet fever	1018	677	807
Whooping cough	426	335	1056

RARE DISEASES

Anterior poliomyelitis was reported from Boston, 8; Brockton, 1; Everett, 3; Fall River, 1; Haverhill, 2; Holyoke, 1; Lawrence, 2; Lowell, 12; Lynn, 1; Methuen, 1; New Bedford, 1; Pittsfield, 1; Reading, 1; Rockland, 1; Salem, 1; Saugus, 1; Springfield, 1; Wakefield, 1; total, 40.

Anthrax was reported from Woburn, 1.

Dog-bite requiring anti-rabic treatment was reported from Boston, 5; Hudson, 2; Lowell, 4; Winthrop, 1; total, 12.

Dysentery was reported from Boston, 1; Fall River, 1; total, 2.

Encephalitis lethargica was reported from Boston, 2; Milton, 1; Williamstown, 4; total, 7.

Epidemic cerebrospinal meningitis was reported from Boston, 1; Fall River, 1; Lowell, 1; Lynn, 1; Marlboro, 1; Orange, 1; Whately, 1; Windsor, 1; Worcester, 1; total, 9.

Hookworm was reported from Boston, 1.

Leprosy was reported from Wareham, 1.

Malaria was reported from Boston, 1.

Pellagra was reported from Boston, 3.

Septic sore throat was reported from Boston, 11; Fall River, 1; Greenfield, 1; Lowell, 1; Lynn, 1; total, 15.

Tetanus was reported from Cambridge, 1; Foxboro, 1; Worcester, 1; total, 3.

Trachoma was reported from Boston, 1; Lowell, 1; Lynn, 1; Newburyport, 1; total, 4.

Trichinosis was reported from Boston, 1; Brockton, 1; total, 2.

DISTRIBUTION

ALL COMMUNICABLE DISEASES

	November 1923	November 1922
Total cases (all causes)	7,144	7,290
Case rate per 100,000 population	180.0	185.2

Certain Prevalent Diseases

	November 1923	November 1922
Diphtheria:		
Total cases	1,151	1,263
Case rate per 100,000 population	29.0	32.1

Cities and towns noticeably exceeding their median endemic indexes.*

Falmouth	(0)	14
Middleboro	(0)	8
Avon	(0)	6
Quincy	(14)	21
Haverhill	(13)	20
Peabody	(4)	20
Revere	(11)	26
Stoneham	(0)	7
Lawrence	(18)	58
Littleton	(—)	13
Maynard	(0)	16
Medford	(8)	14
Methuen	(3)	19
Waltham	(9)	21
Woburn	(2)	8
Fitchburg	(9)	17
Oxford	(0)	6
Southbridge	(0)	8
Uxbridge	(0)	8
Worcester	(40)	79
Holyoke	(4)	98
Springfield	(17)	32
Ware	(2)	8
Orange	(0)	5
Pittsfield	(5)	30

	November 1923	November 1922
Measles:		
Total cases	1,096	1,167
Case rate per 100,000 population	27.6	29.6

Cities and towns noticeably exceeding their median endemic indexes.*

Barnstable	(0)	85
Brookline	(1)	29
Canton	(0)	76

Marlboro	(0)	118
Danvers	(1)	15
Manchester	(0)	12
Salem	(1)	40
Chelmsford	(0)	8
Watertown	(1)	21
E. Brookfield	(—)	36
Fitchburg	(1)	24
No. Brookfield	(0)	29
Southbridge	(0)	9
Spencer	(0)	19
Templeton	(0)	13
Winchendon	(0)	36
Deerfield	(0)	54
Pittsfield	(0)	98

	November 1923	November 1922
Scarlet fever:		
Total cases	1,018	807
Case rate per 100,000 population	25.6	21.0

Cities and towns noticeably exceeding their median endemic indexes.*

Fall River	(5)	16
Middleboro	(0)	7
Boston	(129)	287
Brockton	(9)	19
Brookline	(6)	18
Cambridge	(24)	33
Dedham	(2)	14
Framingham	(0)	8
Marlboro	(1)	14
Milton	(0)	6
Wellesley	(0)	13
Weymouth	(1)	7
Haverhill	(5)	17
Malden	(9)	18
Peabody	(2)	28
Salem	(4)	38
Winthrop	(1)	6
Hudson	(0)	8
Somerville	(11)	23
Winchester	(0)	8
Fitchburg	(5)	22
Leominster	(1)	8
Milford	(2)	7
Winchendon	(1)	12
Worcester	(35)	73
Amherst	(0)	22
G. Barrington	(0)	8

	November 1923	November 1922
Typhoid fever:		
Total cases	47	73
Case rate per 100,000 population	1.2	1.9

Cities and towns noticeably exceeding their median endemic indexes.*

Taunton	(0)	5

	November 1923	November 1922
Whooping cough:		
Total cases	426	1,056
Case rate per 100,000 population	10.7	26.8

Cities and towns noticeably exceeding their median endemic indexes.*

New Bedford	(6)	35
Brockton	(11)	39
Marlboro	(0)	9
Haverhill	(3)	13
Merrimac	(0)	6
Belmont	(3)	15
Groton	(0)	6
Lowell	(1)	30
Methuen	(0)	22
Waltham	(2)	8
Westford	(0)	17
Woburn	(0)	6
Douglas	(0)	15
Lancaster	(0)	11

	November 1923	November 1922
Tuberculosis, pulmonary:		
Total cases	410	423
Case rate per 100,000 population	10.3	10.7

	November 1923	November 1922
Tuberculosis, other forms:		
Total cases	55	54
Case rate per 100,000 population	1.4	1.4

*The Median Endemic Index is obtained by arranging in arithmetical sequence the monthly totals of reported cases for the past 5 years and selecting the middle figure. The numbers in parentheses after the name of each city and town indicate the median endemic index for that city or town; the numbers without parentheses indicate the cases reported during the current month.

Obituary

GEORGE EUGENE TITCOMB, M.D.

Dr. George E. Titcomb of Concord died at the home of his daughter in Manchester, N. H., December 6, 1923, after a long illness. His health had obliged him to give up practice early this year, and he had been confined to his bed since last March.

He was born in Farmington, N. H., on July 28, 1854, the son of George A. and Mary E. (Lemist) Titcomb, and prepared for college at Phillips Exeter Academy and then entered the Harvard Medical School, where he was graduated with the class of 1881. He went directly to Concord, where he had carried on an extensive practice, joining the State Medical Society the year of his graduation.

Dr. Titcomb had done much to build up the Concord Deaconess Hospital, and he did a great deal of the surgical work there. During his long residence in Concord he had done much charitable work among the poor of the town, so quietly that few knew anything about his benefactions.

He was a member of Corinthian Lodge, A.F. and A.M., of Concord, and at one time belonged to the Men's Tuesday Club in Concord, which later became the Social Circle. He was physician to the Concord Reformatory from 1884 to 1899 and medical examiner in Middlesex County from 1889 to 1903.

In 1883 Dr. Titcomb married Frances Rodman of Chestnut Hill, who died four years ago. Surviving the doctor are two sons, a daughter, two sisters, and two brothers.

News Items

DR. ROBERT EDWIN HARNEY, formerly of 420 Norfolk Street, Dorchester Center, announces the opening of his new office at 276 Bowdoin Street, Dorchester.

BEVERLY HOSPITAL.—A demonstration clinical meeting was held at the Hospital, Tuesday, December 18 at 4 p.m. Interesting cases were shown and discussion followed.

WORCESTER DISTRICT MEDICAL SOCIETY.—The course of six lectures given in the Worcester Extension of the Harvard Medical School have been unusually well attended. There are between sixty and seventy enrolled in the course.

Dr. Francis A. Underwood of Worcester died December 2, 1923, after a short illness. He graduated from Holy Cross College in 1891 and from Dartmouth Medical School in 1894 and has practiced in Worcester since that time. He was a member of the School Committee of Worcester for 23 years.

WEEK'S DEATH RATE IN BOSTON.—During the week ending December 8, 1923, the number of deaths reported was 205, against 223 last year, with a rate of 13.84. There were 26 deaths under one year of age, against 29 last year. The number of cases of principal reportable diseases were: Diphtheria, 69; scarlet fever, 100; measles, 51; whooping cough, 6; typhoid fever, 1; tuberculosis, 34. Included in the above were the following cases of non-residents: Diphtheria, 6; scarlet fever, 11; tuberculosis, 4. Total deaths from these diseases were: Diphtheria, 1; scarlet fever, 1; tuberculosis, 10. Included in the above were the following cases of non-residents: Diphtheria, 1; tuberculosis, 1.

Correspondence

MARY QUEEN OF SCOTS' ILLNESS AT JEDBURGH

Mr. Editor:

That the unhappy Queen Mary came near death by natural causes, before her tragic end, is perhaps not generally known. The following account of her illness is from Mumby's "The Fall of Mary Stuart," published in 1922.

The events happened in the autumn of 1566, "when Darnley was sulking in Glasgow, and Mary planning to leave Edinburgh for the royal burgh of Jedburgh, in order to hold a Border Session there." Bothwell, the favorite, was severely wounded at this time, in trying to restore order on the Border. He was taken from the field for dead, with three severe wounds. Eight days after this the Queen rode sixty miles in one day to see the wounded favorite. Shortly after her return to Jedburgh the Queen was seized with the sudden illness which so nearly terminated her life.

"M. Du Croc to Archbishop Beaton:

"We begin to have more hope of the Queen, and for the present the doctors have no fears. She has vomitings after what she takes, which are a little troublesome. . . . The King is at Glasgow, and has never come here."

Mumby tells us that this same night the Queen had a relapse. "Her whole body became so cold that all present thought she was dead. The Earl of Murray began to lay hands on the most precious articles, such as her silver plate and rings. The mourning dresses were ordered and arrangements made for the funeral. Gradually the Queen regained consciousness."

A few days later Bishop Lesley writes to Archbishop Beaton that the Queen had another attack within a few days, "swooning again and failed in her sight. Her feet and knees were cold. . . . Her Majesty got some relief until about six hours in the morning on Friday, when Her Majesty became dead, and all her members cold, eyes closed, mouth fast, and feet and arms stiff and cold. Nevertheless, Master Nau, who is a perfect man of his craft, would not give the matter over in that manner, but anew began to draw her knees, legs, arms and feet and the rest, with such vehement torments, which lasted the space of three hours, until Her Majesty recovered again her sight and speech, and got a great sweating, which was held the relief of the sickness. . . ."

In regard to this illness Mumby quotes Mr. Small: "Queen Mary at Jedburgh (p. 18):

"A distinguished physician whose diagnosis, based on all the recorded symptoms, is to the effect that Mary's illness was due to an attack of haematemesis, or effusion of blood in the stomach, subsequently discharged by vomiting.'"

From the context of the letters and the learned physician's diagnosis it would seem reasonable to suppose that the Queen suffered from an open gastric ulcer, from which there was violent, repeated hemorrhage, the activity of which may have been started by her long ride to visit Bothwell.

A little more than three months from the time of Queen Mary's recovery the King (Darnley), who was convalescing from an attack of smallpox, was blown to pieces while in his bed at his lodging in Glasgow.

Very truly yours,

WILLIAM PEARCE COUES, M.D.

Brookline, November 10, 1923.

THE GREAT SICKNESS IN HOLLISTON

Mr. Editor:

"December, 1753, and January, 1754, were remarkable for what is called the great sickness in Hollis-ton [Mass.]."

"The patients were violently seized with a piercing pain in the breast or side; to be seized with a pain in the head was not common; the fever high. The greater part of those that died were rational to the last; they lived three, four, five, and six days after they were taken. In some instances, it appears, they strangled, by not being able to expectorate; some in this case, who were thought to be in their last moments, were recovered by administering oil. In about six weeks fifty-three persons died, forty-one of whom died within twenty-two days." The following account of this sickness is extracted from the account kept by the Rev. Mr. Prentiss. "December 31st, seven lay unburied. January 4th, ten lay unburied, in which week seventeen died. There were two, three, four, and five buried for many days successively. Of those who died, fifteen were members of this church." "We are extremely weakened by the desolation death has

made in many of the most substantial families among us; four families wholly broken up, losing both their heads. The sickness was so prevalent that but few families escaped; for more than a month, there was not enough well to tend the sick and bury the dead, though they spent their whole time in these services; but the sick suffered and the dead lay unburied; and that notwithstanding help was procured, and charitable assistance offered, by many in the neighboring towns." "We are a small town, consisting of about eighty families, and not more than four hundred souls."

[From "Barber's Historical Collections Relating to the History and Antiquities of Every Town in Massachusetts." Published 1839 by Dorr Howland & Co., Worcester, Mass.]

Very truly yours,
C. F. ADAMS.

AMERICAN MEDICAL ASSOCIATION

Council on Pharmacy and Chemistry

Mr. Editor:

In addition to the articles enumerated in our letter of October 27th, the following have been accepted:

Abbott Laboratories:
Butesin.
E. Bilhuber, Inc.:
Afenil,
Ampules Afenil.
Cutter Laboratories:
Diphtheria Antitoxin Globulin,
Glycerinated Vaccine Virus,
Gonococcus Vaccine.
Hoffmann-LaRoche Chemical Works:
Iodostarin,
Chocolate Tablets Iodostarin-Roche,
Chocolate Tablets Iodostarin-Roche 0.25 Gm.
Parke, Davis and Co.:
Carbon Tetrachlorid (Human Use)—P.D. and Co.

Yours truly,
W. A. PUCKNER, *Secretary*,
Council on Pharmacy and Chemistry.

DISEASES REPORTED TO MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

WEEK ENDING DECEMBER 1, 1923

Disease	*No. of Cases*	*Disease*	*No. of Cases*
Anterior poliomyelitis	7	Pellagra	2
Anthrax	1	Pneumonia, lobar	68
Chicken-pox	302	Scarlet fever	254
Diphtheria	200	Septic sore throat	2
Dog-bite requiring anti-rabic treatment	3	Suppurative conjunctivitis	11
Dysentery	1	Syphilis	46
Epidemic cerebrospinal meningitis	2	Tetanus	1
German measles	5	Trichinosis	2
Gonorrhea	103	Tuberculosis, pulmonary	77
Influenza	6	Tuberculosis, other forms	15
Measles	266	Typhoid fever	7
Mumps	154	Whooping cough	89
Ophthalmia neonatorum	23		

THE DIRECTORY OF THE MASSACHUSETTS MEDICAL SOCIETY

The Secretary has revised the directory and it is in the hands of the printer. If any corrections are to be made notice must be given immediately. Every effort has been made to correct changes, but many Fellows have moved residences or offices without sending the information to the Secretary.

A CHRISTMAS MESSAGE

The years move on; the seasons slowly change
And in the guise of new fruits, old fruits bring.
Nothing is new, yet everything is strange,
Since first the manger cradled Israel's King.

New fashions come as fashions always came;
Men dress their thoughts and think that they are new,
And still the world, inscrutably the same,
Holds to the course where God has set it true.

There is no newness though the garb is new;
Men still seek trifles that they long have sought,
And still some prize the wingéd words that flew
When first the Sermon on the Mount was wrought.

The riches that the earth has long concealed
Man slowly brings to light by His wise plan—
The oldest and the newest stands revealed;
True Peace on Earth and Man's Good Will to Man.

J. G.

SOCIETY MEETINGS

DISTRICT SOCIETIES

Bristol South District Medical Society:
The annual meeting will be held in New Bedford, May 1, 1924.

Essex North:—Semi-annual meeting at Haverhill, January 2, 1924. Annual meeting at Lawrence General Hospital, May 7, 1924.

Essex South District Medical Society:

January 7, 1924:—Essex Sanatorium, Middleton, 4 p. m. Tuberculosis conference in conjunction with Essex North.

January 23, 1924:—Lynn Hospital. Speaker, Dr. Frank H. Lahey of Boston.

March 19, 1924:—Salem Hospital.

May 7, 1924:—Annual meeting, Relay House, Nahant, in conjunction with Lynn Medical Fraternity.

Franklin District:—Society meets at Greenfield the second Tuesday of January, March, May, July, September. Annual meeting in May.

Hampden District:—The meetings for the year are as follows:
January, 1924, at Springfield. April, 1924, at Springfield; annual meeting.

Hampshire District Medical Society:
Meetings held bi-monthly, the second Wednesday in the month, at Boyden's Restaurant, Northampton.

Middlesex South District Medical Society:

January 30, 1924:—Combined meeting with Suffolk District at the Boston Medical Library.

February 27, 1924:—Combined meeting with the Surgical Section of Suffolk District at the Boston Medical Library.

March, 1924:—Hospital meeting; place not yet determined.

April, 1924:—Annual meeting.

Norfolk South District:—Meetings first Thursday of each month at 11.30 a. m., January, February, March, April and May, at United States Hotel, Boston. The February and May meetings are stated meetings.

Suffolk District Medical Society:

January 30, 1924:—In association with the Boston Medical Library and the Middlesex South District Medical Society at the Boston Medical Library at 8.15 p. m.

February 27, 1924:—Meeting of Surgical Section, in association with the Middlesex South District at the Boston Medical Library at 8.15 p. m.

March 26, 1924:—Meeting of the Medical Section, in association with the Boston Association for the Prevention and Relief of Heart Disease, at the Boston Medical Library at 8.15 p. m.

April 30, 1924:—Annual meeting, to be held at the Boston Medical Library at 8.15 p. m.

Worcester District:—The meetings for the year are as follows:
January 9 at St. Vincent Hospital, Worcester.
February 13 at Memorial Hospital, Worcester.
March 13 at City Hospital, Worcester.
April 10—A public meeting.
May 8—Annual meeting.

STATE, INTERSTATE AND NATIONAL SOCIETIES

Schedule of meetings of the *New England Dermatological Society:*

Wednesday, February 13, 1924, at 3 p. m., in the Skin Out-Patient Department, Massachusetts General Hospital.

Wednesday, April 9, 1924, at 3 p. m., in the Surgical Amphitheatre, Boston City Hospital.